



**Understanding institutional change:  
A Review of Selected Literature for  
the Climate Change and Rural Institutions  
Research Programme**

Ida Peters, Ian Christoplos, Mikkel Funder,  
Esbern Friis-Hansen and Adam Pain

DIIS Working Paper 2012:12

**IDA PETERS**

Research Associate, DIIS

**IAN CHRISTOPLOS**

Ph.D. candidate, DIIS

ich@diis.dk

**MIKKEL FUNDER**

Ph.D. candidate, DIIS

mfu@diis.dk

**ESBERN FRIIS-HANSEN**

Ph.D. candidate, DIIS

efh@diis.dk

**ADAM PAIN**

Ph.D. candidate, DIIS

DIIS Working Papers make available DIIS researchers' and DIIS project partners' work in progress towards proper publishing. They may include important documentation which is not necessarily published elsewhere. DIIS Working Papers are published under the responsibility of the author alone. DIIS Working Papers should not be quoted without the express permission of the author.

**DIIS WORKING PAPER 2012:12**

© The authors and DIIS, Copenhagen 2012  
Danish Institute for International Studies, DIIS  
Strandgade 56, DK-1401 Copenhagen, Denmark  
Ph: +45 32 69 87 87  
Fax: +45 32 69 87 00  
E-mail: diis@diis.dk  
Web: www.diis.dk

Cover Design: Carsten Schiøler  
Layout: Allan Lind Jørgensen  
Printed in Denmark by Vesterkopi AS

ISBN: 978-87-7605-511-0 (pdf)  
ISBN: 978-87-7605-512-7 (print)

Price: DKK 25.00 (VAT included)  
DIIS publications can be downloaded  
free of charge from www.diis.dk

### **ACKNOWLEDGEMENTS**

The Climate Change and Rural Institutions Research Programme is funded through a research grant from the Danish Research Council for Development Research, with additional support from the Climate Change, Agriculture and Food Security Programme under the CGIAR Partnership.

The authors would like to thank our partners in the CCRI Programme for constructive comments to the working paper.

Please note that this is a literature review only, and does not comprise the theoretical framework of the research programme as such.

### **ABOUT THE CCRI PROGRAMME**

“Climate Change and Rural Institutions” (CCRI) is a collaborative research programme which explores the role of district level institutions in climate change adaptation. The programme is coordinated by DIIS in collaboration with partners in Nepal, Uganda, Vietnam and Zambia.

For more information, please see [www.diis.dk/ccri](http://www.diis.dk/ccri)



**TABLE OF CONTENTS**

Abstract	6
1. Introduction	7
2. Path dependency	8
2.1 Path dependency and meso level response to climate risk	8
2.2 Theoretical origins	8
2.3 Historical perspectives on path dependency without historical determinism	9
2.4. Critical junctures, climate change and path dependency	10
3. Gradual institutional change	11
3.1 Beyond determinism	11
3.2 Towards a typology of institutional change	12
3.3 Three links to explore in understanding institutional change	13
4. Institutional bricolage	16
5. Questioning the distinctions in theories of institutional change	19
6. Innovation systems	20
6.1 Innovation systems and the promotion of technological change	20
6.2 Innovation and autonomous adaptation	22
6.3 Innovation, opportunities and risk	22
7. Meso level institutions	23
7.1 Why meso level institutions are important	23
7.2 Pluralism at the meso level	24
7.3 Meso level organisations as the bearer of ‘solutions’	25
7.4 Meso level institutions as the “obstacle”	27
7.5 The diversity of meso level governance	27
7.6 Meso level policy implementation	28
8. Conclusions: climate, institutions and risk	30
List of references	31

## **ABSTRACT**

This literature review summarises selected theories of institutional change, with a particular emphasis on issues relevant to the Climate Change and Rural Institutions (CCRI) research programme. The review focuses on concepts that can be applied in understanding how and why meso level institutions operating at district and provincial levels respond or fail to respond when faced with climate change related upheavals. The review examines the concepts of path dependency, gradual institutional change and institutional bricolage, and how these tools might be used to understand processes of change in meso level institutions when faced by catastrophic environmental change.

## I. INTRODUCTION

This literature review summarises current perspectives on the aspects of theories of institutional change that are related to the research questions that will be addressed in the project Climate Change and Rural Institutions (CCRI). The review focuses on concepts that can be applied in understanding how and why meso level institutions operating at district and provincial levels respond or fail to respond when faced with climate change related upheavals. The choice of theories and concepts is not intended to be comprehensive, given that there is a very wide range of ideas that may possibly provide additional insights, but it is hoped that they provide a conceptual starting point for the theoretical explorations that will expand as empirical understanding is generated in the course of the research.

The research questions are as follows:

- What is the contextual setting influencing innovation among meso level institutions?
- How and to what extent are adaptation measures reflected in the frameworks and practices of meso level institutions?
- What are the processes and drivers of meso level institutional change/lack of change in response to climate change (CC)?
- What are the impacts of meso level institutional change (or lack thereof) on rural adaptation?

The literature reviewed here notably does not aim to cover the rapidly growing body of literature on environmental resilience. The intention is to explicitly focus on areas of understanding that are all too often overlooked due to the normative assumptions that are inherent in much of the resilience discourse. It is the intention of CCRI to return to the debate on resilience once a clear and empirically

informed body of knowledge has been developed. The review starts with an investigation of the concepts of path dependency, gradual institutional change and institutional bricolage, and how these tools might be used to build understanding of processes of change in meso level institutions when faced by catastrophic environmental change. These three conceptual tools are contrasted with a brief summary of the discourse on innovation systems. This literature review pays particular attention to how concepts can be applied to understanding how different development and climate goals, rules and structures are combined, some of which involve innovation and others which reflect responses that are locked into path dependencies.

The literature review examines a range of theoretical perspectives on the role of meso level institutions (here specifically referring to institutional structures related to district/provincial local government, agricultural advisory services, and other agencies and organisations involved with natural resource management and agriculture operating at this level) that may influence their engagement in climate change adaptation. This understanding of meso level (district) institutions is important as they are assumed to play a key role at the interface between national policies and individual/community level adaptation efforts.

This potential role of meso-level institutions has often been overlooked due to two perspectives that have dominated the social science discourse on climate change adaptation. The first has been a focus on how international and national policies for 'planned' adaptation reach communities (Adger et al. 2009). The second has been the considerable and ongoing volume of research on how local farmers, pastoralists, etc. are undertaking their own 'autonomous adaptation' at individ-

ual and community levels.<sup>1</sup> However, effective and sustainable climate adaptation also requires a third focus: understanding of the processes within meso level institutions that mediate between national and local practices.

## 2. PATH DEPENDENCY

### 2.1 Path dependency and meso level response to climate risk

There have been recent calls for attention in research and practice to how climate and development policies come together at the interface between national policies and household/community adaptation, i.e., where district level institutions operate (Christoplos et al. 2009). In particular where decentralisation is profoundly influencing implementation of adaptation frameworks (Agrawal et al. 2009), meso level institutions and organisations are playing a growing role in facilitating adaptation and channelling external investments. When references are made to local and meso level institutions in the literature on climate adaptation, this tends to be in the form of normative advice regarding how organisations at this level should respond to risk, rather than analyses of how they actually act. It is rare that due consideration is given to the institutional factors that may limit or prevent organisations at meso level from adopting this advice.

When failures to implement new climate advice are acknowledged, this is usually framed as being due to a lack of will due to ‘political’ or ‘bureaucratic’ factors, i.e., ‘problems’ that need to be ‘addressed’. Labels such as these do not explain the political and bureaucratic processes that generate these ‘problems’ and enable or constrain potential solutions. In or-

der to transcend these de facto black boxes, this literature review begins with an introduction to the theories and concepts that seek to explain what governs the path dependencies that may lock in developmental processes and stand in the way of changes that are hoped for and expected. A deeper understanding of the factors behind path dependency suggests that this is a simplification and that path dependency does not necessarily block, but rather actually frames responses to extreme climate events.

### 2.2 Theoretical origins

According to Campbell (2010) theories of path dependency emerged when researchers began to turn their attention to the analysis of institutional change. Campbell notes that researchers started recognizing that institutions typically do not change rapidly. They are “sticky, resistant to change, and generally only change in “path-dependent” ways” (Campbell 2010:90). Campbell describes path dependency as a process where contingent events or decisions result in institutions persisting over long periods of time and constraining the range of options available to actors in the future, including those that may be more efficient or effective in the long run. In other words, latter events are largely, but not entirely, dependent on those that preceded them. Scholars who argue that institutional and policy-legacies constrain change reach similar conclusions (Campbell 2010:90).

Campbell lists four factors that lock institutions into set paths:

First, political institutions have large start-up costs so that once they are established actors are not likely to seek to change them, especially if they perceive

<sup>1</sup> e.g., <http://waterworlds.ku.dk/>



that the chances of other actors joining them to innovate are increasingly slim given the costs involved. Second, sometimes politicians deliberately build institutions in ways that make them difficult to change. They may, for instance, impose procedural obstacles, such as super majority voting rules, to prevent others from later changing the institutions that they create. Third, once a particular policy style or decision-making approach has been institutionalized, actors accumulate knowledge about how it works. The more familiar and comfortable they become with it, the more hesitant they are to deviate from it. Fourth, beneficiaries of legislative or institutional largess reinforce institutional behaviour that will continue to provide them with benefits (2010:90-91).

Campbell points out how cultural and sociological perspectives suggest that in different social and political contexts different “paths” are accepted as normal or inevitable; “principles and practices become institutionalized to the extent that they are taken for granted by the actors involved in them” (Campbell 2010:91).

### **2.3 Historical perspectives on path dependency without historical determinism**

To recognise what makes people, households, communities and societies vulnerable or resilient in the present, you need to appreciate what made them that way over time. The old adage says that it is not earthquakes that kill people, but buildings; actually it is not buildings so much as where they are situated, what they are made of, how they are built

and why people use them that way that proves fatal (Bankoff 2012:37).

Even if path dependency is sometimes perceived as a socio-political phenomenon, it is primarily framed in a historical perspective. An influential article on path dependency analysing the example of typewriter keyboards summarised this as “one damn thing follows another” (David 1985). This has also been applied in relation to the factors that influence how institutions in countries of the former Soviet Union have responded to their new circumstances (Sehring 2009). In relation to greenhouse gas emissions, this perspective on path dependency is sometimes used to explain how economic and political structures based on technologies with high levels of carbon emissions have, over time, created trajectories that are difficult to escape (World Bank 2010).

Sehring stresses how this should not be interpreted as assuming a process of historical determinism. On the contrary, whereas “historical experiences and policy legacies frame present actions: behaviour or identities that once proved to be successful and that are established, will be used again to meet new challenges” (Sehring 2009:64). Institutional continuity is not something static, but a dynamic process of reproduction and adaptation (Streeck and Thelen 2005; Sehring 2009:64).

The need to avoid the historical determinism trap is particularly important when bringing the discussion back to the question of how path dependency steers concepts of ‘development’ in developmental states, i.e., in states that take a firm lead in macroeconomic and social planning. Path dependency in these cases refers not to a lack of vision, but rather a warning to be wary of assumptions that global (and/or Western/donor-ori-

ented) visions of the path to development are somehow universal, or that homogeneity is likely to emerge in state perspectives on how to deal with the insecurity that is generated by factors such as climate change. Wood and Gough summarise this:

We are not suggesting a global program of catching up. We are not suggesting for the foreseeable future (i.e., at least during the lifetime of the Millennium Development Goals) that the welfare regimes of poor countries can somehow be transformed into the welfare state ones of the West, or even that this would be desirable. That would be to deny path dependency and to be insensitive to the different historical ways in which societies and geographic zones are represented within globalization, and as a result are able to construct different welfare mixes (Wood and Gough 2006:1710).

## 2.4 Critical junctures, climate change and path dependency

Two starting points in applying concepts of path dependency to climate change adaptation are to look at (1) whether path dependency prevents responses to emerging risks as it blinds actors to gradually growing hazards and creeping environmental changes, and (2) whether extreme climate events (i.e., disasters) are likely to break institutional lock-in and create awareness that ‘something must be done’. Climate change researchers tend to take a pessimistic view about the potential that political systems will respond to creeping change, and place greater ‘hope’ that disasters can create critical junctures, but these assumptions have not been sufficiently analysed empirically. Campbell points out that path dependency is primarily about what

steers incremental change, but provides little guidance regarding what might create ‘critical junctures’, either through specific exogenous shocks (such as an extreme climate event), or when internal and external factors converge in, for example, environmental thresholds (sometimes referred to as ‘tipping points’). He also points out that the search for solutions, e.g., through innovation processes (discussed in section 6 below) are not addressed within discussions of path dependency.

Some researchers have tried to bring together these two aspects of change by introducing the concept of critical junctures—that is, major exogenous shocks and crises that disrupt the status quo and trigger fundamental institutional changes. But there are at least three problems with this approach.

First, shocks and crises of the sort that constitute critical junctures explain why major, revolutionary changes occur, but not why more incremental or evolutionary (i.e., path-dependent) change happens (Streeck and Thelen 2005; Mahoney and Thelen (eds.) 2010). Second, the critical junctures approach assumes that the impetus for institutional change comes in the form of an exogenous shock. There is little recognition that the internal inconsistencies and contradictions of an institutional arrangement may also spawn crises that result in its transformation (Haydu 1998; Schneiberg 1999). Third, the critical junctures approach tends to focus our attention on the key events that create pressures for change, but not on the complex search process that follows whereby actors actually determine what institutional changes to make, if any (e.g., Campbell et al 1991). It would appear,

then, that we need a more nuanced approach to explain institutional change than those found typically in arguments about path dependence (Campbell: 2010:91).

Those addressing disaster risk in a historical perspective largely question whether critical junctures and gradual change is a useful distinction, since disasters are both directly experienced and also rooted in historical processes (Bankoff 2012). People respond to immediate weather hazards as part of their emerging understanding of climate patterns. To differentiate between these sets of responses may be misleading.

After a major disaster, policy declarations are commonly made about how a given climatic event should be a clarion call for ‘transformation’ through actions such as ‘building back better’. The processes that are associated with these calls, and indeed people’s experience of these events, rarely resemble such grand transformations as these reconstruction policies are themselves often transformed as they are merged with ongoing political and economic processes (Christoplos et al. 2011).

### **3. GRADUAL INSTITUTIONAL CHANGE**

#### **3.1 Beyond determinism**

Path dependency theories can provide useful insights into the ‘stickiness’ of institutions, and why they and meso level actors may not respond to political reforms or economic and environmental changes in their context. However, the notion of path dependency, when applied in a narrow or deterministic manner, can distract from the need to understand how actual change occurs.

How can we explain change by relying on an analysis of mechanisms that block change? This is a logical trap into which many path-dependent explanations of institutional change fall [...] In this sense, path dependence arguments are often very deterministic (Campbell 2007:5).

In order to avoid the risk of a historical determinism in path dependency theory it is useful to complement and contrast this perspective with theories of gradual institutional change that emphasize how the everyday actions and interactions of organisational and non-organisational actors ‘shape’ institutions, and how institutions are continuously but subtly changed as a range of different norms and ideas become merged.

Moore (1978) and Lund (2006) point out that there are two kinds of social processes surrounding institutions: Processes of ‘regularization’, and processes of ‘situational adjustment’.

Processes of regularization are ‘processes which produce rules and organizations and customs and symbols and rituals and categories and seek to make them durable’ (Moore, 1978: 50). It is the result of people’s efforts to fix social reality, to harden it, to give it form and predictability. Increasing predictability of the decisions made by institutions of public authority, and increasing coherence among them, thus represents processes of increasing regularization. Processes of situational adjustment are those whereby people exploit the indeterminacies in the situation or generate such indeterminacies by reinterpreting or redefining rules and relationships (Lund 2006).

Mahoney and Thelen (2010) present a different conceptual approach to similar issues, focusing on dichotomies of dominance and pragmatism and formality versus informality in the relations between those who make, implement and are subject to different sets of rules:

- Institutions are the product of struggles between actors with different powers and interests (both in- and outside organisations, and at different levels within organisations). This means that the powerful often determine the rules to a large extent. However, domination often involves some degree of compromise and everyday pragmatism (e.g., to maintain legitimacy) and power struggles sometimes lead to unintended outcomes.
- Many studies of institutional change/path dependency assume that people (including both staff inside organisations and the people outside) comply with the rules, norms and organisational frameworks that make up institutions. In everyday reality, however, they very often do not comply with the formal practices and rule-sets.
- Institutions may also have a lack of reach, and they are open to different interpretations between rule-makers, rule-implementers and rule-takers.

These factors mean that there is room for people inside and outside organisations to manipulate and interpret institutions on an everyday basis, and this is a critical part of what makes institutions change (gradually). Studying what Mahoney and Thelen call the “gaps and soft spots” of rules and how they are interpreted by actors and manipulated and changed is therefore an important aspect of understanding institutional change.<sup>2</sup>

<sup>2</sup> See also Jackson in Campbell et al. 2010:81.

For our research, this implies looking at (1) how members of meso level organisations interpret, adapt and manipulate climate change policies, programmes, rules and organisational frameworks in the everyday context, and what the outcomes are; (2) how people outside the meso level organisations respond to that and try to influence and manipulate the meso level organisations themselves; and (3) how actors choose to call down (or ignore) different sets of policies related to climate change, commercialisation or ‘pro-poor growth’ depending on where ‘gaps and soft spots’ service their interests or seem to ‘make sense’ within path-dependent institutional trajectories.

### 3.2 Towards a typology of institutional change

CCRI needs to apply theories that can explain both gradual and sudden institutional change given that climate change may trigger both forms of responses. There may be a gradually growing awareness of the need to adjust natural resource and agricultural management regimes; just as a disaster or ‘tipping point’ may represent such a dramatic challenge to the status quo that major and immediate change is initiated. This may seem to suggest different foci, but they are not necessarily mutually incompatible (Streeck and Thelen 2005; Mahoney and Thelen 2010). The matrix below highlights that:

- (i) it is useful to distinguish between the *process* of change and the *result* of change (and focus on both)
- (ii) institutional change can be both *abrupt/sudden* and/or *incremental/gradual*
- (iii) the results of change can lead to both *continuity* (when something changes on the surface but the old order essentially remains the same), or *discontinuity* (when a ‘real’ change occurs).

Figure 1.1 Types of institutional change: processes and results

		Result of change	
		Continuity	Discontinuity
Process of change	Incremental	Reproduction by Adaption	Gradual transformation
	Abrupt	Survival and return	Breakdown and replacement

Source: Streeck and Thelen 2005

In relation to gradual transformation, Streeck and Thelen (2005) and Mahoney and Thelen (2010) describe four key types of institutional change:

1. Displacement: When existing rules, norms, etc. are removed and replaced with new ones.
2. Layering: The introduction of new rules, norms, etc. on top of or alongside existing ones, thereby gradually changing the form, content and meaning of the institutions (see also Heijden 2011 who connects this to institutional bricolage, see also below).
3. Drift: When institutions formally remain the same and do not initiate changes, but their relevance and impact change because of changes in their context.
4. Conversion: When institutions formally remain the same, but actors actively redepoly or reinterpret them to have a new purpose/form/content/meaning.

These four types of change can come about both by formal changes (e.g., by a government), but also by the way that, e.g., organisational staff interpret and choose to implement rules, and as a result of power struggles between those struggling to change and preserve the institutional status quo.

### 3.3 Three links to explore in understanding institutional change

Mahoney and Thelen (2010: 18ff) suggest focusing on three aspects that influence and promote the above types of institutional change. This can be summarised as follows:

- *The role of context:* Two basic questions can be asked in this respect: “Does the political context afford defenders of the status quo strong or weak veto possibilities?” [i.e., possibilities to oppose institutional change measures]? “Does the targeted institution afford actors opportunities for exercising discretion in interpretation or enforcement?” (op cit). In practice this involves examining formal and informal power relations, influence and authority related to the institutions and actors in question.
- *How actors change institutions:* The two key questions are: “Does the actor seek to preserve the existing institutional rules? Does the actor abide by the institutional rules?” (op cit). Mahoney and Thelen identify four basic types of actor strategies in this respect: (i) Insurrectionaries, who seek to eliminate/change institutions actively and openly, (ii) Symbionts, who secretly exploit institutions for their own purposes

by breaking the rules either formally or informally (usually for their own private gain, or for some greater motive that they believe is good for society), (iii) Subversives, who do not break the rules but gradually and slowly seek to change them by engaging them and reworking them

“from the inside”, (iv) Opportunists, who make use of whatever possibilities are least costly and most beneficial to them (and hence may oppose or support institutional change). The table below summarises how these different actors and their strategies relate to institutional change:

	Seeks to Preserve Institution	Follows Rules of Institution
Insurrectionaries	No	No
Symbionts	Yes	No
Subversives	No	Yes
Opportunists	Yes/No	Yes/No

Source: Mahoney and Thelen 2010: 23

These different strategies often lead to different types of institutional change (see figure below).

- *How context and institutions create certain types of actors and actor strategies:* Mahoney

and Thelen (2010) theorise that different contexts and institutional characteristics create room for particular types of actor strategies in relation to institutional change:

		<i>Characteristics of the Targeted Institution</i>	
		Low level of Discretion in Interpretation/ Enforcement	High level of Discretion in Interpretation/ Enforcement
<i>Characteristics of the Political Context</i>	Strong Veto Possibilities	Subversives (layering)	Parasitic Symbionts (drift)
	Weak Veto Possibilities	Insurrectionaries (Displacement)	Opportunists (Conversion)

Source: Mahoney and Thelen (2010:28)

The framework for understanding gradual institutional change proposed by Mahoney and Thelen may provide interesting ‘thinking tools’ for exploring institutional responses to climate change, and indicate ways that types of institutional change and actor strategies can be classified across contexts and countries. A certain caution is however needed: The framework was initially developed for Western economies/political institutions (as is also evident in some of the terminology). It is now applied more universally (including in Kenya, see Mahoney and Thelen 2010), but there may be elements particular to the South that are different. Moreover, the theory seems to be at its most vulnerable where it becomes predictive – e.g., the last point where particular types of actor strategies and institutional change are predicted to follow from particular political and economic contexts.

A final risk is to assume that actors are always rationally and consciously pursuing the above strategies with clear goals. This is rarely how people think and act. Streeck and Thelen nevertheless acknowledge an emphasis on strategic behaviour, and reject “...the shared cognitive templates that some sociologists associate with institutions” (Streeck and Thelen 2005:11). However, they oppose the rational choice notion of voluntarism and seek to “...draw attention to relations of authority, obligation, and enforcement..” (op cit).

In this respect it is worth adding that strategic agency needs not be a result of explicit reflection. Here, Bourdieu’s notion of actors can help provide a balanced perspective: For Bourdieu (1997), actors are skilled beings that manoeuvre towards what they perceive as the best option, but they do so intuitively – much as a football player does not think about his next move, but simply does it. And crucially for Bourdieu, the agency of actors is

based on embodied structures (the habitus), i.e., experiences with how the world is and what is possible and not possible. In this way, cultural norms and structural inequities are often embodied in the perceptions of those who are dominated, so that their actions and strategic dispositions are often guided more by accommodating themselves as best as possible within existing patterns of domination, instead of challenging such domination in the first place.

Weick (1995) applies a similar conceptual framework to the organisational level, which may be relevant in seeking to understand how people together in organisation “make sense” of change. Weick (1995:17-62) describes sensemaking as being characterised by seven processes:

1. *Grounded in identity construction*: For example, an agricultural extension agency may need to reconsider its identity as a provider of ‘expert’ knowledge when climate variability makes standard packages based on production protocols of the past irrelevant.
2. *Retrospective*: For example, local government may base its decisions about its role in responding to ‘new’ climate-related disasters on experience in engaging in disaster risk reduction and response in the past.
3. *Enactive of sensible environments*: For example, provision of new information regarding climate change scenarios may stimulate the negotiation, iteration and conflictual processes related to the strategies suggested by Mahoney and Thelen described above in order to work towards a “sensible” institutional environment.
4. *Social*: Weick’s theories of sensemaking in organisations highlight how meso level institutional change is not just a sum total of the strategies of individuals, but also a social process within organisations.

5. *Ongoing*: By understanding path dependency and gradual institutional change we recognise that people in organisations do not respond to climate change through the stepwise logic of ‘project cycles’ but rather through ongoing iterative processes of learning about their changing environment..
6. *Focused on and be extracted by cues*: A disaster or repeated crop failures may (or may not) represent ‘cues’ indicating that a critical juncture has been reached. By understanding the formal and informal institutional decision-making processes within meso level organisations we can better understand what constitutes a ‘cue’ for a given type of response.
7. *Driven by plausibility rather than accuracy*: The climate change discourse tends to be based on assumptions that, with more and better information and data, meso level organisations will be able to make better decisions. The factors described in this review suggest that all information is instead considered based on the implications for different plausible explanations for the phenomena and plausible response scenarios. The high levels of uncertainty regarding the accuracy of climate information, market trends and other inputs into decision making imply that meso level actors are unlikely to expect to achieve an ‘accurate’ understanding of the risks posed by climate change.

#### 4. INSTITUTIONAL BRICOLAGE

The concept of institutional bricolage in some respects brings together concepts related to path dependency and gradual institutional change. It acknowledges both how ‘one damn thing follows another’ and also the need to understand the choices between different courses of action and the ways that actors de-

termine what constitutes a plausible strategy. It is a way of recognising that combinations of repertoires of action and both formal and informal agendas are often adopted in relatively unstructured and pragmatic ways.

Mary Douglas (1973, 1986) argues that institutions (in the sense of rules) must be “naturalized”. One particularly effective form of naturalization is by way of “analogy” with other existing societal norms, e.g., the ambiguity of climate adaptation is likely to be managed as part of a process whereby actors anchor (naturalize) their decisions in analogous responses to risks that they know and (better) understand. “The shared analogy is a device for legitimizing a set of fragile institutions” (Douglas 1986:49). In other words “there needs to be an analogy by which the formal structure of a crucial set of social relations is found in the physical world, or in the supernatural world, or in eternity, anywhere so long as it is not seen as a socially contrived arrangement” (Douglas 1986:48, in Lund 2006:691).

When faced with climatic upheaval there are particular pressures to put pre-existing and trusted solutions into service even if these ‘old’ institutions are not necessarily fit for purpose. Mary Douglas has written extensively on how institutions work and argues that patterns of authority and precedence basically lie around as bric-à-brac, ready to be pressed into service, as Douglas puts it: “The bricoleur uses everything there is to make transformations within a stock repertoire of furnishings” (Douglas 1986:66).

Christian Lund highlights in his article on ‘Twilight Institutions’ how the concept of institutional bricolage has also been further developed by Frances Cleaver and Sten Hagberg. In Cleaver’s analysis (2002) of conflict and cooperation in Tanzania she uses the term institutional bricolage to suggest how mechanisms for resource management and collective action



are borrowed or constructed from existing institutions, styles of thinking and sanctioned social relationships (Cleaver 2002:15). Also Sten Hagberg's work on the hunters' associations and *syndicats d'éleveurs* in Western Burkina Faso demonstrate how institutional bricolage and leakage shape new political dynamics around issues of security (Hagberg 1998, in Lund 2006:692). Hagberg shows how rights are mobilised through organisational structures that adapt themselves to broader discourses of rights and the institutional imperatives of public life in Burkina Faso. "The outsourcing of security — by design or by default — constitutes a significant process for the blurring of the boundary between public and private" (Hagberg 1998, in Lund 2006:692).

This view is also consistent with the comparative evidence (Jones 2009:27-28.) that new institutional practices very rarely displace what is already there, but instead are based on pre-existing patterns.

Similar findings exist in the case of rural markets institutions. It is often assumed that liberalisation and market penetration through promoting competition will reduce the extent to which such labour relations are based on custom and non-market obligations such as, for example, patron-client relations. Liberalisation is seen to reduce the ways in which markets are divided or segmented by the structures of gender, ethnicity, age and place. But the evidence suggests otherwise and as one source comments with respect to India:

Scholars watching the interplay between the economy and institutions such as caste and gender expect that, with liberalisation, the significance of the social factors which structure economic behaviour will diminish relative to that of economic factors ..[but] ...evidence from the ethnographic evidence from the

local urban economy ...shows that far from diminishing, social institutions are being refashioned by market exchange, becoming more economic in their content and roles, but still shaping economic action in ways which are quite distinctive to these institutions" (Harriss-White and Jankaran 2004:158).

A comparable conclusion has been drawn with respect to the way in which externally driven policy in state reconstruction processes fails to displace what is there already. The consequence is a muddle of institutional multiplicities where "there are different sets of rules of the game, often coexisting in the same territory [...] interventions of the international community simply add a new layer of rules, without overriding the others" (Di John 2008:33). Evidence from Afghanistan with respect to provincial appointments (Van Bijlert 2009) found that new bureaucratic rules for appointment were simply layered over old ones and become subject to the older rules of the game. While donors sought to address what they saw as the problem of a lack of merit-based selection procedures in order to promote a rule-based administration, this competed with the logic of a relationship-based governance model of the government. The outcome has been a practice that while formally following the rule of merit-based appointments, informally these have been heavily influenced in order ensure the right appointment. As one commentator put it:

Political power is not exercised in a progressively depersonalised, formalised and rationalised way through agreed 'rules'. Rather it continues to be exercised in a personal and patronage-based manner, but within the overall framework of bureaucratic rules (Lister 2007:6).

If institutional bricolage is perceived of as a possibly progressive process, and given that meso level actors are not only concerned with adapting to climate change as they are confronted by multiple patterns of climate and other forms of risk, it can be suggested that adaptation will gain traction within the rural development agenda if it becomes part of an institutional bricolage of goals and policies. Organisations at the meso level do not have the luxury of responding to climate risk one day and market uncertainties or access to seeds and fertiliser the next. They need to find ways to deal with these risks and uncertainties in an integrated manner. The value of scientific advice on climate change adaptation may seem self evident when choosing when and what to plant, and how to manage limited water resources, but all of these decisions relate to other non-climate-related factors and suggest the need to look beyond specific climate-related institutions to understand the 'cues' for different responses and the factors that make a given approach 'plausible' for meso level organisations.

An important factor related to institutional bricolage in this research is that it may be a way that meso level actors reconcile the fact that the stakeholders (which include their ministerial leaders, voters, potential investors, etc.) perceive similar issues differently. A skilled bricoleur is thus not necessarily someone who 'champions' a given perspective, but rather one who sees connections and paths forward amid seemingly profound contradictions. This is indeed an important aspect of understanding how policies are implemented more generally.

[...] success in policy engagement and influence is dependent on several interacting and often highly dynamic

variables which require researchers to be familiar with the policy processes perspective instead of treating policy-making as essentially a technocratic endeavour (Naess, Polack and Blessings 2011:2).

An example of an arena for this that strongly influences how meso level institutions respond to climate change is the narratives and counter narratives at play in relation to crop diversification: farmers, district level NGOs, governments and donors regard crops differently:

Farmers emphasise mainly the potential of crop diversification to guarantee food availability in case of failure of other crops. District level NGOs and government officials principally regard crop diversification as a means of boosting soil health and improving the incomes of the people. Donors project crop diversification primarily as a means of improving the nutritional status of a society deeply wedded to maize food products (Naess, Polack and Blessings 2011:3).

A public sector agricultural extension agent, or indeed perhaps even a sales agent for a multinational seed supplier, may employ skills as a bricoleur in assembling groups of stakeholders in market chains and those involved in natural resource management with seemingly contradictory interests to deal with climate challenges that they perceive differently.

However the 'darker' side of institutional bricolage needs to be acknowledged whereby existing power structures capture potential transformatory processes to reinforce 'sticky' institutional structures that block climate adaptation.

## 5. QUESTIONING THE DISTINCTIONS IN THEORIES OF INSTITUTIONAL CHANGE

Findings such as these suggest how path dependency, gradual (and rational choice) change processes and institutional bricolage may come together and function at the same time. Gradual institutional change, hobbled but not made immovable by path dependency, may be taking place through a process of institutional bricolage. As Campbell writes:

Several things have become clear as the literature on institutional reproduction and change has evolved. First, where early theories emphasized functional or technical imperatives as the driving force behind institutional change, more recent theories have paid more attention to how actors are involved in the process—as institutional entrepreneurs, bricoleurs, and so on. As such, theorists and researchers have incorporated the notion of struggle, conflict, and negotiation over institutions into their understandings of institutional change. This is especially important because it reveals how institutional reproduction and change are flip sides of the same coin. That is, institutions are contested. So, depending on the balance of power among those contesting them, they may change or not. In this sense the processes of institutional reproduction and change are mutually constitutive—many of the forces that change institutions also stabilize them (Campbell 2010:108).

But there are those who argue that the way in which the concept of institutions has been taken up by economists such as Douglas North (and as reflected in the discussion so

far) has led to a simplification and impoverishment of the ways in which institutions are conceptualised and analysed; there is more to institutional change than path dependency and evolutionary change. Portes (2011) for example argues that economists' conceptual models of institutions address only the surface and visible manifestations of institutions and do not take into account deeper causal influences related to cultural values, norms and social structures. Furthermore, the tendency for economists to apply the concept of institutions to the roles and the status hierarchies of individuals and to deeper norms, cultural repertoires and class structures muddles the analytical value of the concept. As Portes (2011:55) complains:

If...North and his followers wish to call individual norms *institutions*, they are certainly entitled to do so, but then they would have to cope with the conceptual problem of the relationships between such *institutions* and the roles in which they coalesce, as well as the symbolic blueprints specifying relationships among such roles and hence, the actual structure of organisations ...institutions are not social structures, they *have* social structure (i.e organisations) as the actual embodiment of the symbolic blueprints guiding relationships among roles (italics in original)

Portes goes on to suggest that concepts of path dependence and gradual changes are insufficient as explanations for processes of institutional change. In part this is because they do not respond to a clear definition of institutions but also because they do not address the blueprints that govern the patterned and regular relationships that occur among role occupants in organisations. He further argues that

if one is to build understanding of the deeper drivers of change in culture and social structure one has to expand the potential determinants of change and he proposes five sets of forces that may impinge on institutions and lead to their potential transformation.

- (a) Path dependence producing evolutionary change at a more visible level.
- (b) Diffusion leading to evolutionary change and sometimes punctuated change at intermediate levels of culture (public right to information acts for example).
- (c) Scientific/technological breakthroughs affect the cultural skills repertoires and normative order (see the innovation systems discussion below).
- (d) Charismatic prophecy – religious or secular – transforming value systems.
- (e) Inter-elite and class struggle capable of changing the distribution of power.

If the research is to take on a wider cultural and social structural perspective with respect to institutions and therefore an interest in the deeper causal influences of change (and this is seen to be relevant to both the comparative dimensions of the study and the relative weakness of the formal institutions in the countries of comparison) this may widen the conceptual lens to be applied and perhaps include Bourdieu's perspective on social fields. However this will need to be driven by the empirical evidence.

## 6. INNOVATION SYSTEMS

### 6.1 Innovation systems and the promotion of technological change

Whereas this literature review generally avoids delving into normative conceptual frameworks, the 'flip side' of much of the

concepts discussed in the preceding chapter is in many respects the discourse around how to 'create' institutions that promote innovation, including climate adaptation. Innovation systems theory is about how different actors, working together, can overcome path dependency or the generally undefined nature of inertia that blocks effective searches for solutions. Given that the adaptation is seen as a process of innovation (often technical adaptation), it is therefore important to reflect on where path dependency and innovation systems meet.

Innovation systems thinking differs in many respects from the concepts analysed earlier in this review in that it *emphasises how organisations innovate* in relation to new emerging factors, whereas path dependency, gradual institutional change and institutional bricolage instead *emphasise more how the past context frames institutional change*. These are not irreconcilable differences as they relate to emphasis. Therefore it will be important for CCRI to explore the interface between these conceptual frames of reference in the course of the research.

It should be stressed, however, that the innovation systems concept is usually applied in relation to innovation in response to economic competition and not environmental adaptation (apart from where the latter is driven by the former, of course). For example, a recent World Bank Sourcebook on Agriculture Innovation Systems defines the concept as follows:

An innovation system is a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behaviour and performance. (World Bank 2012).

Despite a certain bias toward innovation driven by profit maximisation, the innovation systems concept has been instrumental in drawing attention to the complexity of actors, motivations and institutions that influence if and how innovation occurs. This is a major shift from the simple technology transfer paradigms that dominated agricultural development approaches (and formal policies) in the past. As such, the emergence of innovation systems thinking may eventually have a significant impact with regard to legitimising greater respect for the factors discussed earlier in this review. For example the World Bank Sourcebook continues:

Agricultural innovation typically arises through dynamic interaction among the multitude of factors involved in growing, processing, packaging, distributing, and consuming or other wise using agricultural products. These actors represent quite disparate perspectives and skills, such as metrology, safety standards, molecular genetics, intellectual property, food chemistry, resource economics, logistics, slash-and-burn farming, land rights the list is far too long to complete here (World Bank 2012:3).

Even institutional bricolage is implicitly highlighted in the sourcebook:

For innovation to occur, interactions among these diverse stakeholders need to be open and to draw upon the most appropriate available knowledge. Aside from a strong capacity in R&D, the ability to innovate is often related to collective action, coordination, the exchange of knowledge among diverse actors, the incentives and resources available to form partnerships and develop busi-

nesses, and conditions that make it possible for farmers or entrepreneurs to use the innovations (World Bank 2012:3).

As such, well-functioning innovation systems are characterised by flexibility, dynamism and readiness to work outside of institutional boundaries. The question is thus whether such conditions are likely to exist in the places facing climate-related crises.

In innovation systems thinking considerable attention is paid to technological change. Particularly in the past, some promoters of innovation systems even effectively ignored many of the actors and institutional processes listed above in the interest of focusing on a simple, linear process by which ‘innovations’ are to be ‘adopted’. Even today, the innovation systems concept is frequently applied as a ‘trendier’ label for approaches that resemble science-driven technology transfer efforts of the past. This has at times been particularly true within the climate discourse.

This relates to the ‘crisis’ nature of climate change wherein adoption of new technologies, and indeed abandonment of the wrong technologies, are seen to be essential in order to ‘save the planet’. Berkhout points out the inevitable links between the search for innovations and environmental crisis: “Technology is seen both at as a root cause to many environmental problems but also offers means for reducing ecological footprint” (Berkhout 2002:1). He nonetheless tempers this as he continues: “New research on innovation and the environment emphasises the importance of looking at the level of technological systems and at the link between technologies and the institutional settings they are embedded within” (Berkhout 2002:1).

In understanding the power of narratives of technology transfer and innovation systems it is important to keep in mind that

these are themselves cultural phenomena, with implications for how the meso organisations that are immersed in this culture of technocratic modernity perceive and respond to risk (see Hewitt, in Wisner et al. 2012:85-96). This is compounded due to the fact that knowledge of natural hazards is ‘traditionally’ assumed to lie with physical science disciplines (Mercer 2012, in Wisner et al. 2012:97), which thereby directs attention toward technological solutions even when risk is acknowledged.

## 6.2 Innovation and autonomous adaptation

The literature on innovation in relation to ‘autonomous adaptation’ to climate change is dominated by examples of hybrid (Mercer, in Wisner et al. 2012:102-105) or co-production of knowledge, whereby science and local (‘community’) knowledge are said to result in approaches that respond to local perceptions about the risks of change while also bringing in scientific knowledge about risks that may require more radical upheavals. In this literature many of the factors related to capacity to adapt/innovate, path dependency and institutional bricolage are seen to be cultural (see for example, Ensor and Berger 2009a). There are many examples emerging of projects that drive innovation through coproduction of knowledge (Ensor and Berger 2009b). For example, in recent years Nepal has developed a new multilevel institutional partnership, including collaboration with farmers and other non-governmental organizations evolving and co-producing climate-sensitive technologies on demand (Chhetri et al. 2012:142).

The earlier economics literature on innovation has increasingly merged with the focus on coproduction of knowledge. In the

‘ecological modernisation’ literature, which emphasises the importance of technological innovation in reconciling economic development with ecological sustainability, there has been a demand for meso level explanations. In particular, there has been a drive to include institutional contexts and processes into the picture, arguing that the correct focus should be on the co-evolution of technical and institutional innovations (see eg Berkhout 2002:2).

The more recent concern with systems innovations and technological regime shifts can be seen as emerging from this intellectual context (Kemp et al. 1998). This institutionalist analysis of technical change is concerned with linking between several levels of change – micro, meso and the macro – what Kemp and Rotmans (2001) term niches, regimes and socio-technical landscapes. Again, the stress is on the co-evolution of technical and institutional systems, the primary difference being goal orientation (Berkhout 2002:2). According to Chhetri’s study in Nepal, climate change may exert pressure on institutions by aggravating current problems or by creating new opportunities [...] Social norms and values may exert influence on the process of institutional innovation (Chhetri et al. 2012:144).

## 6.3 Innovation, opportunities and risk

Innovation is primarily portrayed as being driven by a search for opportunities to improve and sustain livelihoods, which may at times also include a desire to manage risk. The literature on innovation systems tends to emphasise the former, while there is a tendency to assume that climate-related innovations are likely to be driven by people’s desire to minimise risk. This is a fundamen-

tal difference in conceptual frameworks, but this does mean that this dichotomy accurately reflects the nature of decision making within meso level organisations and at household level.

A basic assumption regarding how to support the capacity of people to adapt to climate change is that they need to adopt technologies that reduce their exposure to climatic hazards. However, considerations of whether or not to adopt these technologies will inevitably be interpreted within a sphere of understanding and decision making about a much wider range of risks and opportunities involved in any alternative course of action. The links between climate and market-related risk are often portrayed in the climate change discourse as being a matter of a ‘double exposure’ of populations to risks related to both global environmental change (largely related to climate change) and market-led globalisation (Liechenko and O’Brien 2008). This literature has stressed how neoliberalism has led to the creation of institutions which give priority to management of risk among producers deemed to be ‘commercially viable’, thereby undermining the adaptive capacity of smallholder farming and forcing many to seek livelihood opportunities away from farming (Eakin 2005). The double exposure discourse has expanded awareness of the need to take a broader set of factors into account, but there is a need to look more concretely about why and how meso level organisations might deem it necessary or plausible to integrate climate concerns into prevailing market-oriented paradigms, and also why meso level organisations dealing with rural development may very well remain locked into approaches that ignore or deny the need to adapt to an additional set of variables.

## 7. MESO LEVEL INSTITUTIONS

### 7.1 Why meso level institutions are important

Analysis of meso level institutions differs from the focus that is usually taken in climate change adaptation processes in rural areas. A central premise of CCRI is that it is largely within the work of organisations at meso level that climate change adaptation will become part of how rural people deal with climate change. The normative drive to roll out climate adaptation efforts would be well served if it were tempered by greater understanding of the institutional factors that frame how these organisations actually work. The path dependencies and institutional bricolage and innovation processes described above play out as meso level actors choose courses of action amid a range of goals and policies and as they confront complex combinations of climate, market and food security risks.

Arun Agrawal has developed a conceptual framework to understand and organize adaptation practices of the rural poor in his paper “The role of local institutions in adaptation to climate change” (2008). Agrawal notes that adaptation to climate change is local and that institutions influence adaptation and climate vulnerability in three crucial ways:

- a) they structure impacts and vulnerability, b) they mediate between individual and collective responses to climate impacts and thereby shape outcomes of adaptation, and c) they act as the means of delivery of external resources to facilitate adaptation, and thus govern access to such resources (Agrawal 2008:2).

Agrawal argues that there is a lack of middle-range theories of adaptation practices

to help frame policy debates, and absence of comparative empirical studies of adaptation to support policy interventions. Existing research has typically attempted either to develop insights at the global level in an effort to mimic the research on mitigation and climate modelling or been concerned with localized and specific case studies of vulnerability and responses to climate change (Agrawal 2008:2). In order to examine the role of rural institutions it is crucial to pay attention to their nature and goals, their patterns in how specific types of institutions facilitate particular types of adaptation strategies, and the rural institutions' linkages with each other and with different rural households (Agrawal 2008:23). A Report from Institute for Development Studies (IDS) similarly notes that development practitioners should look at the structures, relationships, interests and incentives that underpin institutions, instead of prioritizing reform of formal institutions (IDS 2010).

In parallel with the discussion of meso level institutions in climate change adaptation there has been some discussion of the roles that local government plays in disaster risk reduction (O'Brien et al. 2012). This builds on past concerns raised that the calls for local government to take on greater roles in, for example, enforcing building codes and land use management plans have not always reflected the actual capacities existing within local government (Christoplos 2003:104-105). The disaster risk reduction discourse is, however, still dominated by documentation of cases of "good and bad local governance" (O'Brien et al. 2012:634) with the former being strong and the latter being fragmented and weak, which is frequently attributed to the spread of neoliberalism.

## 7.2 Pluralism at the meso level

In order to understand the role of institutions at meso level it is essential to recognise that the key factors are not only related to institutional norms related to the internal workings of meso level organisations, but also in relation to their inter-relations within the public sector and in different forms of cooperation among public, private and civic organisations. Coalitions of State and non-State actors are becoming increasingly common in policymaking and implementation due to a pragmatic recognition that effective solutions often depend on a more collaborative and flexible approach (Christoplos 2010). A crucial role for governments and state-based institutions, beyond the legitimacy they uniquely confer, then becomes how to set the agenda and create governance frameworks within which such collaboration can constructively take place (UN 2012:65).

For example, treating climate adaptation as a wholly separate area of work from agriculture, water management or health care may make sense in one way, given that these areas fall under different ministries. But in the lives of real families and communities, they are heavily interconnected by complex webs of linkages, feedback loops and ripple effects" (UN 2012:66).

Furthermore, local governance institutions regulate how decisions on these issues are taken and implemented. Local governance institutions affect both water institutional reform and the agricultural sector because they each represent the concrete institutional environment where policies have to be implemented. This particularly affects the implementation of new rules that address the local level, such as user participation, fee collection, or local-



level basin management in water management (Sehring 2009:73).

Finally, it is important to recognise that pluralism is not only a matter of the engagement of public, private and civil society institutions, but also in the interplay between formal and informal institutions:

[N]orms and practices, and the relationships of trust and cooperation which underlie them, are often generated and negotiated outside the formal institutions. Institutional bricolage then, takes place in a wider arena than that defined by the visible structures of bureaucratic resource management institutions (Cleaver 2002:18).

### **7.3 Meso level organisations as the bearer of ‘solutions’**

In relation to climate change institutions are key, and according to Thynne they shall solve problems beyond states, markets and civil societies through concerted collective action involving many institutions and other actors (Thynne 2008:328). In some respects the contrasting assumptions and normative hopes of the path dependency and innovations systems literature come into stark contrast in the portrayals of how meso level organisations are expected to perform. They are either presented as the bearers of ‘solutions’ as facilitators of the coproduction of knowledge, or they are gatekeepers and obstacles due to their ignorance, or their allegiances to political and private actors who may be more interested in profits than in sustainability. The normative way that meso level organisations are described in discussions of climate change tends to focus on how they should contribute to ‘our agenda’, and thereby can distract attention from the need for analyses of how they actually function and why.

Considerable attention is paid to the ways that informal local-level organisations can bring actors together and provide a voice for marginalised communities. In India informal village councils are actively engaging with formal, elected councils (Gram Panchayats). They are moving beyond traditional roles of resolving disputes and regulating social relations within the village. They are becoming more active in seeking access to public funds, influencing decisions about development projects, and raising matching contributions. They are also influencing elections to the Gram Panchayats: leaders and members of the informal village councils are standing for election or seeking to influence nominations. Far from being cut off by the elected Panchayats, informal councils appear to have been stimulated by them. Research from the Institute for Development Studies shows that informal councils tend to be more active when they are located close to Gram Panchayat headquarters (IDS 2010:52).

This increased activism could be negative if it were merely a way of furthering elite interests. But the evidence suggests that, while informal councils can be repressive and exclusionary – especially when dealing with affairs internal to the village – they are playing effective roles in representing the needs of villagers to higher levels of government, in negotiating and mediating interests with the Gram Panchayats, and in monitoring their performance. For instance, in villages where informal councils are most active, the levels of awareness and satisfaction with Gram Panchayat programmes are also relatively high. Women are more enthusiastic about informal village councils than men, and illiterates more than literates (IDS 2010:52, 53).

According to Institute for Development Studies there are a number of factors that explain the generally positive picture in India. For example informal village councils do not control access to land and other valuable assets, so their opportunities for abuse of power are narrow. Informal councils are highly accountable over financial issues, presenting detailed accounts annually to a general village assembly, and informal councils face a pluralistic, competitive environment in which villagers have options. They have the opportunity to take disputes to the police or formal courts if dissatisfied with informal dispute resolution mechanisms. Additionally, those informal village councils that invest the most effort in organising local meetings to achieve consensus on nominees are the most successful in having their nominees elected. This indicates that leaders and members of informal councils need to work hard to earn the trust of villagers, and actively retain their support. The increasing shift towards a more collective, externally oriented role for informal councils is also helping to make them more pluralistic and inclusive (IDS 2010:53).

Evidence from Afghanistan (Pain and Kantor 2010) also supports a picture of the capacity of villages to provide public goods but draws attention to the significant differences between villages, in terms of the behaviour of these villages in relation to the provision of public goods. Major factors underlying these differences were the behaviour of village elites and the level of their interest in supporting the common good. Where land inequalities were high and elites were economically secure, they had few incentives to widen the provision of public goods and were largely immune from social sanctions. Where elites were economically insecure they were likely to

have a shared interest in supporting social solidarity and promoting the provision of public goods.

Climate change hazards exert particular pressure on institutions, which in turn generates both technological innovation and new forms of cooperation in agriculture but can also aggravate current problems (Chhetri et al. 2012:144). With regard to how institutions bring actors together for more effective response to disasters, it is sometimes noted that their advantages have limits:

Local level organizations and institutions have the following advantages in disaster management vis á vis higher level institutions: (a) represent local perspectives in policy making and DRM [disaster risk management] planning fora, (b) bridge and promote two-way communication between higher and local policy levels, (c) assist and guide locally the implementation of DRM activities, (d) mobilize local participation; and finally (e) handle at the local level the full emergency cycle, better linking, in particular, emergency prevention and rehabilitation activities based on an anticipatory (as opposed to reactive) mind set (FAO 2004).

'The functioning and comparative strengths of local institutions depend upon the type and scale of natural disasters. There is a threshold beyond which local institutions are no longer able to prepare for and respond effectively to a disaster. While recurrent natural disasters are better managed at the local level, exceptional/extreme events also require support from the national/local government and international community' (FAO 2004:13).

#### 7.4 Meso level institutions as the “obstacle”

Some years ago a paper questioned expectations that participatory methods could achieve coproduction and actually bridge the different interests in environmental efforts and the market-oriented agricultural development. It asked if we were on the same platform, but waiting for a different train (Hildyard et al. 1998).

Meso level organisations involved in rural development, particularly agricultural extension services, are often portrayed as gatekeepers (Peterson et al. 2010) and indeed even as obstacles to the flow of knowledge and learning about how to respond to climate change. Indeed, their efforts to promote technological innovation may actually generate risk by, for example, encouraging farmers to adopt high-yielding, more commercially viable varieties that depend on controlled environmental conditions and otherwise discouraging traditional methods for spreading agricultural risks. Meso level organisations are often the concrete manifestation of the ‘sticky’ institutional structures that lock production and natural resource management methods into maladaptive trajectories.

Much research has pointed out that local government is often dominated by elites and acts to block relevant reforms: The case of Pakistan:

Punjab province in Pakistan has high levels of social and economic inequality. ILGIs<sup>3</sup> there are dominated by a land-owning elite established during colonial land settlement processes in the late nineteenth and early twentieth centuries. They have remained powerful despite land reform legislation and local government electoral reform. Politics in Punjab

is less competitive than in Karnataka, and heavily based on personal connections (IDS 2010:53,54). [...] Relations with the formal state is competitive rather than complementary (IDS 2010:54).

Other researchers have emphasised how “Knowledge workers and professionals are obliged to operate within the existing social order and cultural politics ... [which are] largely controlled and directed by small powerful elites...” which is said to ignore vulnerabilities (Hewitt 2012: 94).

#### 7.5 The diversity of meso level governance

The concepts reviewed thus far have pointed both to the plurality of actors at the meso level, and circumstances under which meso level governance can both promote and obstruct change. The evidence points to a wide range of governance forms and outcomes at multiple levels driven by a range of causal factors. Harriss (2006), for example, draws attention to the ways in which different political regimes in India have led to difficult outcomes with respect to pro-poor policies and poverty outcomes and the role for example of political mobilization in Kerala in supporting agrarian reform and high levels of social capital. He also notes the strong historical path dependency to such differences, a point supported by IDS’s analysis:

There appears to be a close correspondence between the form of colonial era rule (more direct rule in Karnataka, and more indirect rule in Punjab) and the nature of contemporary ILGIs.<sup>3</sup> This suggests a broad hypothesis: the more closely ILGIs remain rooted in the practices of indirect colonial institutions, the

<sup>3</sup> Informal Local Government Institutions

worse they govern (judged by their ability to provide valued collective goods and services, and to operate in relatively pluralistic, consensual and transparent ways). Conversely, the more they have been reshaped in interaction with more pluralistic, democratic, inclusive formal institutions, the more likely they are to meet acceptable governance standards (IDS 2010:54,55).

[...]while research findings from Punjab and Rajasthan highlight how persistent institutional legacies can be, the findings from Karnataka show that ILGIs can change relatively rapidly if the external political and administrative environment changes. Post independence reforms in Karnataka (which included early moves towards decentralisation, reinforced by the 1992 Panchayati Raj legislation) have shifted incentives and opportunities for informal village councils. They are providing an effective link between poor rural communities and the formal state, and actively contributing to building new forms of public authority (IDS 2010:58).

Similarly a study on village differences (Pain and Kantor 2010) in Afghanistan pointed to significant differences in institutional performance and public good outcomes even between villages that were relatively close together and within similar cultural zones. The point needs to be made that there is a wide diversity in the ways in which meso level institutions may perform within a given context and the empirical analysis of such variability and what underlies it is central to building understanding of the ways in which meso level institutions may or may not engage with and respond to the climate change agenda. Nothing should be pre-judged.

## 7.6 Meso level policy implementation

Conferences and major international meetings exemplify the search for policy consensus that is being sought among national governments, interest groups and the international development agencies for climate adaptation. Implementation of climate change policies and programmes, however, is often plagued with high degrees of fragmentation. As illustrated in the citation below, international donor agencies express frustration when seeking to implement policies aimed at supporting climate change adaptation. Policies that seem straight-forward at first may fail during implementation once political processes take control of the implementation process on the ground.

The smooth implementation of crop diversification as an adaptive strategy is constrained by competing interests of the key stakeholders who have different notions about how it can actually be done. The main obsession of the stakeholders is to promote, protect and safeguard their own selfish interests (Naess, Polack and Blessings 2011:7).

This is, however, something that is not unique for climate change adaptation. Policy implementation processes are subject to national and local politics and almost inevitably give rise to a wide range of conflict and coordination problems. A large body of literature on policy implementation theory has evolved over the past 30 years (Barret 2004) seeking to understand what happens between policy formulation and outcome. The first generation of implementation theories focused on policy formulation and misleadingly assumed a more or less linear process that moves from a problem to a policy to

implementation. Anthropological and organisational literature have since suggested that the opposite relationship exists; that solutions look for problems since it is through such problems that policies are established as legitimate.

The policy-making process is by no means the rational activity that it is often held up to be in much of the standard literature. Indeed, the metaphors that have guided policy research over recent years suggest that it is actually rather messy, with outcomes occurring as a result of complicated political, social and institutional processes which are best described as evolutionary. (Juma and Clarke 1995).

The second generation of implementation studies focuses analysis on the relationships between policy and practice. A widely used model conceptualises policy formulation and implementation as an interactive process that may be altered or reversed at any stage in its life cycle by pressures and reactions from those who oppose it (Thomas and Grindle 1990:1166). Understanding the location, strength and stakes involved in these attempts to promote, alter, or reverse policy reform initiatives is seen as central to understanding the outcomes.

Along with local state institutions, a variety of non-state actors are now involved in policy implementation processes at the meso level and crucial in influencing outcomes. The combination of new crises, such as climate change, and emergence of new actors, challenges the policy implementation process at meso level. Climate change adaptation is less a consequence of adopting the right policies and more about outcome implementation where different actors engage and pursue their own agendas.

Lund (2006) refers to the “twilight character” of local public authority where local conflicts, competition and coalitions create a form of local governance that does not necessarily resemble the aims or agenda of the central state. Given the centrality of the meso level in climate adaptation processes (either those mandated from central level or even those local and national economic development agendas that lead to maladaptation), there is a need to unpack what goes on in this “twilight” (Lund 2006:687).

Public policy implementation in support of climate change adaptation is likely to involve local government. The importance of local government for policy implementation at the meso level has grown considerably as a consequence of decentralisation reform, which over the past decade has transferred an increasing amount of authority, resources and responsibility for service delivery to the local government. Local government in many parts of the world is today responsible for service delivery for a range of sectors, including public roads and infrastructure, primary health care, primary education, agriculture and natural resource management.

Two other types of meso level institutions are relevant to climate change adaptation. One type is civil society institutions, including rural producer organisations, cooperatives, savings and loan groups, etc. The second type is private institutions, including many service providers. Civil society and private institutions interact with public policy implementation processes. These institutions are also often involved in activities that are implemented separately from local government, as isolated or parallel projects, supported by different donors and informed by different professional disciplines (Friis-Hansen and Kyed 2009).

## **8. CONCLUSIONS: CLIMATE, INSTITUTIONS AND RISK**

A shift is underway towards more reflective narratives about the interplay between climate change and meso level institutional change. It is being recognised that in order to ‘implement’ climate adaptation a more institutional perspective is needed (Adger et al. 2009), but there is no clear consensus on what this implies. Assumptions about presumed institutional responses vary from concerns about path dependency to normative calls for coproduction and better integration of meso level organisations in innovation systems. Sometimes institutions are expected to become better at merely implementing directives.

A recognition has thus come to the climate community (that came to the development community a few years earlier). Namely that ‘institutions count’. This was the central message of the World Development Report in 2003 with a recognition that institutional development was a precondition for growth. The need to focus on institutions has in many respects been revisited in a darker perspective in the 2011 World Development Report that emphasises the links between ‘weak’ subnational governance and instability in response to stress, be it violence or climate change or combinations of the two. Regardless of whether meso level actors are seen as being locked into paths that undermine adaptive capacity, or if they are perceived to be bearers of coproduction-related solutions, they are now recognised as being important. An earlier phase when the climate change discourse was overwhelmingly dominated by the generation of technical solutions has passed.

A recent manifestation of this recognition is in the World Resources Report 2011, which

highlighted ‘decision making’ as the basis for responding to climate change, and with this the need to focus on the institutional processes through which decisions are made. “The ways in which institutions are designed can dictate not only the type of adaptation actions that are adopted but also how effective they are on the ground” (WRI 2011:70).

It is our hope that this review has provided a conceptual framework for transcending expectations that climate adaptation can be built on picking ‘good’ institutions and organisations or identifying ‘best practices’ to instead draw attention to what these organisations are, what they do, and how factors such as extreme climate events may impinge on what these organisations are and what they do.

## LIST OF REFERENCES

- Adger, N., Lorenzoni, I. & O'Brien, K. (eds). 2009. *Adapting to Climate Change: Thresholds, Values, Governance*. New York, Cambridge: Cambridge University Press, Oxford University Press.
- Agrawal, A. 2008. *The Role of Local Institutions in Adaptation to Climate Change*. Washington D.C.: World Bank.
- Agrawal, A., et al., 2009. 'Climate Policy Processes, Local Institutions, and Adaptation Actions: Mechanisms of Translation and Influence', Social Dimensions of Climate Change, World Bank, Washington, D.C.
- Agrawal, A., and Ribot, J. 1999. Accountability in Decentralization: A Framework with South Asian and African Cases. *Journal of Developing Areas*, 33, 473-502.
- Andrew Bennet, C. E. 2006. Complex Causal Relations and Case Study Methods: The Example of Path Dependence. *Oxford Journals*, 14, 250-267.
- Ayers, J., Kaur, N. & Anderson, S. 2011. Negotiating Climate Resilience in Nepal. *IDS Bulletin*, 42, 70-79.
- Bandyopadhyay, S., Kanji, S. & Wang, L. 2012. The Impact of Rainfall and Temperature Variation on Diarrheal Prevalence in Sub-Saharan Africa. *Applied Geography*, 33, 63-72.
- Bankoff, G. 2012. Historical Concepts of Disaster and Risk. In: Wisner, B.G., Gaillard, J.C. & Kelman, I. (eds) *The Routledge Handbook of Hazards and Disaster Risk Reduction*. London: Routledge.
- Barret, S. 2004. Implementation Studies: Time for a Revival? Personal Reflections on 20 Years of Implementation Studies. *Public Administration*, 82(2), 249–262.
- Barnett, J. & O'Neill, S. 2010. Maladaptation. *Global Environmental Change-Human and Policy Dimensions*, 20, 211-213.
- Berkhout, F. 2002. Technological Regimes, Path Dependency and the Environment. *Global Environmental Change – Human and Policy Dimensions*, 12, 1-4.
- Bijlert, V. M. 2009. *Between Discipline and Discretion. Policies Surrounding Senior Subnational Appointments*. Kabul: Briefing Paper, AREU.
- Bourdieu, P. 1997. *Practical Reason: On the Theory of Action*. Chicago: Stanford University Press.
- Campbell, J.L. 2010. Institutional Reproduction and Change. In: Morgan, G. (ed.). *The Oxford Handbook of Comparative Institutional Analysis*. Oxford: Oxford University Press.
- Campbell, J. L., Hollingsworth, R. and Lindberg L. 1991. *Governance of the American Economy*. New York: Cambridge University Press.
- Charlesworth, M. & Okereke, C. 2010. Policy Responses to Rapid Climate Change: An Epistemological Critique of Dominant Approaches. *Global Environmental Change-Human and Policy Dimensions*, 20, 121-129.

- Chhetri, N., Chaudhary, P., Tiwari, P.R. & Yadaw, R.B. 2012. Institutional and Technological Innovation: Understanding Agricultural Adaptation to Climate Change in Nepal. *Applied Geography*, 33, 142-150.
- Chinsinga, B., Mangani, R., Mvula, P. 2011. The Political Economy of Adaptation through Crop Diversification in Malawi. *IDS Bulletin*, 42, 110-117.
- Christoplos, I. 2003. Actors in Risk. In: Pelling, M. (ed.) *Natural Disasters and Development in a Globalizing World*. London: Routledge. .
- Christoplos, I. 2010. *Mobilizing the Potential of Rural and Agricultural Extension*. Rome: FAO.
- Christoplos, I., Anderson, S., Arnold, M., Galaz, V., Hedger, M. & Klein, R. 2009. *The Human Dimension of Climate Adaptation. The Importance of Local and Institutional Issues*. Stockholm.: Commission on Climate Change and Development.
- Cleaver, F. 2002. Reinventing Institutions: Bricolage and the Social Embeddedness of Natural Resource Management. *The European Journal of Development Research*, 14, 11-30.
- David, P. 1985. *Clio and the Economics of QWERTY*. *The American Economic Review*, Vol. 75, No. 2, Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association. (May, 1985), pp. 332-337.
- Di John, J. 2008. *Conceptualising the Causes and Consequences of Failed States. A Critical Review of the Literature*. London: London School of Economics, Crisis States Research Centre.
- Douglas, M. 1973. *Rules and Meaning: The Anthropology of Everyday Knowledge*. Harmondsworth: Penguin.
- Douglas, M. 1986. *How Institutions Think*. Syracuse, New York: Syracuse University Press.
- Eakin, H. 2005. Institutional Change, Climate Risk, and Rural Vulnerability: Cases from Central Mexico. *World Development*, 33(11): 1923-1938.
- Ensor, J. & Berger, R. 2009a. Community-based Adaptation and Culture. In: Adger, N., Lorenzoni, I. & O'Brien, K. (eds) *Adapting to Climate Change: Thresholds, Values, Governance*. Cambridge: Cambridge University Press.
- Ensor, J. & Berger, R. 2009b. *Understanding Climate Change Adaptation: Lessons from Community-based Approaches*. Rugby: Practical Action Publishing.
- FAO. 2004. *The Role of Local Institutions in Reducing Vulnerability to Recurrent Natural Disasters and in Sustainable Livelihoods Development*. Rome: FAO.
- FAO. 2010. "Climate-Smart" Agriculture Policies, Practices and Financing for Food Security, Adaptation and Mitigation. *The Hague Conference on Agriculture, Food Security and Climate Change*. Rome: FAO.
- Friis-Hansen, E. & Kyed, H.M. 2009. *Participation, Decentralization and Human Rights. A Review of Approaches for Strengthening Voice and Accountability in Local Governance*. Washington D.C.: World Bank.
- Gaventa, J. and McGee, R.G. 2010. *The Impact of Transparency and Accountability Initiatives*. [http://www.dfid.gov.uk/R4D/PDF/Outputs/Mis\\_SPC/60827\\_DPRGaventaMcGee\\_Preprint.pdf](http://www.dfid.gov.uk/R4D/PDF/Outputs/Mis_SPC/60827_DPRGaventaMcGee_Preprint.pdf)



- Hagberg, S. 1998. *Between Peace and Justice: Dispute Settlement between Karaboro Agriculturalists and Fulbe Pastoralists in Burkina Faso*. Doctoral thesis. Uppsala Studies in Cultural Anthropology. Uppsala : Acta Universitatis Upsaliensis.
- Hargadon, A. 2010. Technology Policy and Global Warming: Why New Innovation Models Are Needed. *Research Policy*, 39, 1024-1026.
- Harmeling, S. & Kaloga, A.O. 2011. Understanding the Political Economy of the Adaptation Fund. *IDS Bulletin*, 42, 23-32.
- Harriss-White, B. & Janakarajan. S. 2004. *Rural India Facing the 21st Century. Essays on Long Term Village Change and Recent Development Policy*. London, Chicago and Delhi: Anthem Press.
- Harriss, J. 2006. *Power Matters: Essays on Institutions, Politics and Society in India*. New Delhi: Oxford University Press.
- Haydu, J. 1998. Making use of the past: Time periods as cases to compare and sequences of problem solving. *The American Journal of Sociology*. Vol. 104 No. 2: 339-371.
- Heijden, J. van der. 2011. Institutional Layering: A Review of the Use of the Concept. *Politics*, 31, 9-18.
- Hewitt, K. 2012. Culture, Hazard and Disaster. In: Wisner, B.G., Gaillard, J.C. & Kelman, I. (eds) *The Routledge Handbook of Hazards and Disaster Risk Reduction*. London: Routledge.
- Hildyard, N., Hegde, P., Wolvercamp, P. & Reddy, S. 1998. Same platform, different train: The politics of participation. The Corner House. <http://www.thecornerhouse.org.uk/resource/same-platform-different-train-0>
- Institute of Development Studies. 2010. *An Upside-down View of Governance*. Brighton: University of Sussex.
- Jackson, G. 2010. Actors and Institutions. In: Morgan, G. (ed.) *The Oxford Handbook of Comparative Institutional Analysis*. Oxford: Oxford University Press.
- Jankowska, M.M., Lopez-Carr, D., Funk, C., Husak, G.J. & Chafe, Z.A. 2012. Climate Change and Human Health: Spatial Modeling of Water Availability, Malnutrition, and Livelihoods in Mali, Africa. *Applied Geography*, 33, 4-15.
- Jones, B. 2009. *Beyond the State in Rural Uganda*. Edinburgh: Edinburgh University Press.
- Juma, C. and Clark, N. 1995. Policy Research in Sub-Saharan Africa: An Exploration. *Public Administration and Development*, 15, 121-137.
- Kemp, R., J. Schot and R. Hoogma (1998), 'Regime Shifts to Sustainability through Processes of Niche Formation. The Approach of Strategic Niche Management', *Technology Analysis and Strategic Management*, 10.2: 175-195.
- Kemp, R. and J. Rotmans (2001), *The Management of the Co-evolution of Technological, Environmental and Social Systems*, paper for the conference Towards Environmental Innovation Systems, Eibsee, 27-29 sept, 2001.

- Koch, J. 2008. *Perspectives on Access to and Management of Natural Resources*. Copenhagen: Danish Institute for International Studies.
- Lamboll, R., Nelson, V. and Nathaniels, N. 2011. Emerging Approaches for Responding to Climate Change in African Agricultural Advisory Services: Challenges, Opportunities and Recommendations for an AFAAS Climate Change Response Strategy. Kampala: African Forum for Advisory Services.
- Leach, M., Bloom, G., Ely, A., Nightingale, P., Scoones, I., Shah, E. & Smith, A. 2007. *Understanding Governance: Pathways to Sustainability*. Brighton: STEPS.
- Leach, M., Scoones, I. & Stirling, A. 2010. Governing Epidemics in an Age of Complexity: Narratives, Politics and Pathways to Sustainability. *Global Environmental Change – Human and Policy Dimensions*, 20, 369-377.
- Leichenko, R.M. and O'Brien, K.L. 2008. *Environmental Change and Globalization: Double Exposures*. New York, Oxford University Press.
- Lister, S. 2007. Understanding State-Building and Local Government in Afghanistan. Working Paper no. 14. London: Crisis States Research Centre, London School of Economics.
- Lund, C. 2006. Twilight Institutions: An Introduction. *Development and Change*, 37, 673-684.
- Maantay, J. & Becker, S. 2012. The Health Impacts of Global Climate Change: A Geographic Perspective. *Applied Geography*, 33, 1-3.
- Mahoney, J. 2000. Path Dependence in Historical Sociology. *Theory and Society*, 29, 507-548.
- Mahoney, J. & Thelen, K. (eds). 2010. *Explaining Institutional Change Ambiguity, Agency, and Power*. New York: Cambridge University Press.
- Merbitz, H., Buttstädt, M., Michael, S., Dott, W. & Schneider, C. 2012. GIS-based Identification of Spatial Variables Enhancing Heat and Poor Air Quality in Urban Areas. *Applied Geography*, 33, 94-106.
- Mercer, J. 2012. Knowledge and Disaster Risk Reduction. In: Wisner, B.G., Gaillard, J.C. & Kelman, I. (eds). *The Routledge Handbook of Hazards and Disaster Risk Reduction*. London: Routledge.
- Moore, S.F. 1978. *Law as Process: An Anthropological Approach*. London, Boston: Routledge & Kegan Paul.
- Morgan, G. (ed.) 2010. *The Oxford Handbook of Comparative Institutional Analysis*. Oxford: Oxford University Press.
- Morrison, J.K. 2010. From Global Paradigms to Grounded Policies: Local Socio-Cognitive Constructions of International Development Policies and Implications for Development Management. *Public Administration and Development*, 30, 159-174.
- Mowery, D.C., Nelson, R.R. & Martin, B.R. 2010. Technology Policy and Global Warming: Why New Policy Models Are Needed (or why putting new wine in old bottles won't work). *Research Policy*, 39, 1011-1023.

- Naess, L.O., Polack, E. and Blessings, C. 2011. Bridging Research and Policy Processes for Climate Change Adaptation. *IDS Bulletin*, 42(3). Sussex: Institute of Development Studies.
- O'Brien, G., Bhatt, M., Sauders, W., Gaillard, J.C., Wisner, B. 2012. Local Government and Disaster. In: Wisner, B.G., Gaillard, J.C. & Kelman, I. (eds) *The Routledge Handbook of Hazards and Disaster Risk Reduction*. London: Routledge.
- Olwig, M.F. 2012. Multi-sited Resilience: "The Mutual Construction of "Local" and "Global" Understandings and Practices of Adaptation and Innovation. *Applied Geography*, 33, 112-118.
- Pain, A. and Kantor, P. 2010. Understanding and Addressing Context in Rural Afghanistan: How Villages Differ and Why. Issue Paper Series. Kabul: Afghanistan Research and Evaluation Unit.
- Peterson, N.D., Broad, K., Orlove, B., Roncoli, C., Taddei, R. and Velez, M-A. 2010. Participatory processes and climate forecast use: Socio-cultural context, discussion, and consensus. *Climate and Development*. 2(1): 14-29.
- Piper, L. and von Lieres, B. 2011. 'Expert Advocacy for the Marginalised: How and Why Democratic Mediation Matters to Deepening Democracy in the Global South', Working Paper no. 364. Brighton: Institute of Development Studies.
- Portes, A. 2011. *Economic Sociology: A Systematic Enquiry*. Princeton, Oxford: Princeton University Press.
- Rodima-Taylor, D. 2012. Social Innovation and Climate Adaptation: Local Collective Action in Diversifying Tanzania. *Applied Geography*, 33, 128-134.
- Scheffran, J., Marmer, E. & Sow, P. 2012. Migration as a Contribution to Resilience and Innovation in Climate Adaptation: Social Networks and Co-development in Northwest Africa. *Applied Geography*, 33, 119-127.
- Schneiberg, M. 1999. Political and Institutional Conditions for Governance by Association: Private Order and Price Controls in American Fire Insurance. *Politics and Society*, 27: 67-103.
- Sehring, J. 2009. Path Dependencies and Institutional Bricolage in Post Soviet Water Governance. *Water Alternatives* 2(1), 6181.
- STEPS Centre. 2010. *Getting the Value Without the High Risk? The Rise of Horticulture in Sakai. Briefing no. 7, Environmental Change and Maize Innovation in Kenya: Exploring Pathways in and out of Maize*. Brighton: University of Sussex.
- STEPS Centre. 20?? Maize Security does not Equal Food Security? Breaking the 'Lock in' to the Dominant Maize pathway. Briefing no. 4, *Environmental Change and Maize Innovation in Kenya: Exploring Pathways In and Out of Maize*. Brighton: University of Sussex.
- Streeck, W. and Thelen, K. 2005. *Introduction: Institutional Change in Advanced Political Economies*. In: Streeck, W. and Thelen, K. (eds.) *Beyond Continuity: Institutional Change in Advanced Political Economies*. Oxford: Oxford University Press.

- U.N. 2012. Resilient People, Resilient Planet: A Future Worth Choosing. The Report of the United Nations Secretary-General's High-level Panel on Global Sustainability. New York: United Nations.
- Tanner, T. & Allouche, J. 2011. Towards a New Political Economy of Climate Change and Development. *IDS Bulletin*, 42, 1-14.
- Thomas, J. & Grindle, M. 1990. After the Decision: Implementing Policy Reforms in Developing Countries. *World Development*, 18(8),1163-1181.
- Thompson, J. & Scoones, I. 2009. Addressing the Dynamics of Agri-food Systems: An Emerging Agenda for Social Science Research. *Environmental Science & Policy*, 12, 386-397.
- Thynne, I. 2008. Symposium Introduction Climate Change, Governance and Environmental Services: Institutional Perspectives, Issues and Challenges. *Public Administration and Development*, 28, 327-339.
- Upton, C. 2012. Adaptive Capacity and Institutional Evolution in Contemporary Pastoral Societies. *Applied Geography*, 33, 135-141.
- Weick, K.E. 1995. *Sensemaking in Organizations*. Thousand Oaks: Sage Publications.
- Wood, G. & Gough, I. 2006. A Comparative Welfare Regime Approach to Global Social Policy. *World Development*, 34, 1696-1712.
- World Resources Institute (WRI) in collaboration with United Nations Development Programme, UNEP, and World Bank. 2011. Decision Making in a Changing Climate—Adaptation Challenges and Choices. Washington, D.C.: World Resource Institute.
- World Bank. 2000. *Attacking Poverty. World Development Report 2000/2001*. Washington D.C.: World Bank.
- World Bank. 2009. *Local Government Discretion and Accountability: Application of a Local Governance Framework. Report No. 49059-GLB*. Washington D.C.: World Bank.
- World Bank. 2010. *World Development Report. Development and Climate Change*. Washington D.C.: World Bank.
- World Bank. 2012. *Agriculture Innovations Systems. An Investment sourcebook*. Washington D.C.: World Bank.