

# Conceptual framework for analysing science–policy interactions for improved climate policy



# Conceptual framework for analysing science–policy interactions for improved climate policy

Lance Robinson and Todd Crane

International Livestock Research Institute (ILRI)

May 2016

© 2016 International Livestock Research Institute (ILRI). ILRI thanks all donors and organizations who globally supported its work through their contributions to the [CGIAR Fund](#)



This publication is copyrighted by the International Livestock Research Institute (ILRI). It is licensed for use under the Creative Commons Attribution 4.0 International Licence. To view this licence, visit <https://creativecommons.org/licenses/by/4.0>.

Unless otherwise noted, you are free to share (copy and redistribute the material in any medium or format), adapt (remix, transform, and build upon the material) for any purpose, even commercially, under the following conditions:



ATTRIBUTION. The work must be attributed, but not in any way that suggests endorsement by ILRI or the author(s).

#### NOTICE:

For any reuse or distribution, the licence terms of this work must be made clear to others.

Any of the above conditions can be waived if permission is obtained from the copyright holder.

Nothing in this licence impairs or restricts the author's moral rights.

Fair dealing and other rights are in no way affected by the above.

The parts used must not misrepresent the meaning of the publication.

ILRI would appreciate being sent a copy of any materials in which text, photos etc. have been used.

Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo—ILRI/Zerihun Sewunet

ISBN: 92-9146-465-1

Citation: Robinson, L.W. and Crane, T.A. 2016. *Conceptual framework for analysing science-policy interactions for improved climate policy*. ILRI Project Report. Nairobi, Kenya: International Livestock Research Institute (ILRI).

*Patron: Professor Peter C Doherty AC, FAA, FRS*

*Animal scientist, Nobel Prize Laureate for Physiology or Medicine—1996*

Box 30709, Nairobi 00100 Kenya

Phone +254 20 422 3000

Fax +254 20 422 3001

Email [ilri-kenya@cgiar.org](mailto:ilri-kenya@cgiar.org)

[ilri.org](http://ilri.org)

*better lives through livestock*

ILRI is a member of the CGIAR Consortium

Box 5689, Addis Ababa, Ethiopia

Phone +251 11 617 2000

Fax +251 11 667 6923

Email [ilri-ethiopia@cgiar.org](mailto:ilri-ethiopia@cgiar.org)

*ILRI has offices in East Africa • South Asia • Southeast and East Asia • Southern Africa • West Africa*

# Contents

Acknowledgements	iv
1. Introduction	1
2. Science–policy interactions and policy environments	2
2.1 Conceptual approach for multi-dimensional research into policy environments	2
2.2 Delineating the case	3
3. Initial analysis of science–policy interactions: Three lenses	4
3.1 Discourses	4
3.2 Structures and procedures	5
3.3 Practice	7
4. Synthesis	8
4.1 Local level dynamics and local–national interactions	8
4.2 National-level dynamics	9
4.3 National–international relations	9
5. Research design	10
References	11

# Acknowledgements

This work was implemented by the International Livestock Research Institute as part of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). The views expressed in this document should not be taken to reflect the official opinions of the CGIAR, ILRI or Future Earth.

# I. Introduction

The policies and institutions component of the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS) aims to enable millions of farmers to adapt to a changing climate while boosting food security and low-emissions development by contributing to better and more conducive policies and institutions which support the integration of climate change into agricultural policies and vice versa. One of the ways it does this is by attempting to embed original scientific research in ongoing policy processes such as through multi-level learning alliances and national science–policy exchange platforms. However, questions of whether, why, how and how effectively such modes of science–policy interface work remains poorly understood. There is a need for empirical analyses of policy formation and implementation as social processes that involve complex interactions amongst a wide variety of stakeholders, including global policy and research actors, donor agencies, national policymakers, government ministries and their staff at various levels, civil society stakeholders, and sub-national political actors. The focus of the CCAFS project is ‘Analysing the science–policy–practice interface in climate change adaptation in East and West Africa’ (referred to from this point on as the *Science–Policy–Practice Interface project*).

The direct interaction between scientists and policymakers and the processes put in place for science to inform policy are certainly relevant here. However, policy processes take place both beyond formal mechanisms such as policy platforms, and across levels, with linkages both upwards to supra-national dynamics such as global political pressures and changing donor networks and priorities, and downwards to spaces where policy implementation occurs (or not) and interacts with rural livelihoods. The array of policies in place, including the synergistic and antagonistic interplay among policies, institutional structures, discourses, and power and interests together create what can be thought of as an emergent ‘policy environment’.

One category of the kind of empirical analyses that is needed, therefore, is analysis of national policy environments, including the cross-level interactions between science, policy and practice. Examination of connections from national level upwards will need to devote particular attention to relationships between national policy actors and donor agencies, to the ways in which supra-national forces shape the formulation of national policies, and to questions of whether and how feedback occurs in the other direction from national policy actors back to donor agencies. Analysis of interactions between the national and lower levels will need to consider how multiple policies and social factors intersect and interact in spaces of implementation. In essence this kind of analysis looks at policy as a networked social process rather than a simple product.

This document is a contribution towards such efforts. It presents an analytical framework to guide case study research on cross-level science–policy–practice interaction and the ‘policy environments’ that this interaction creates.

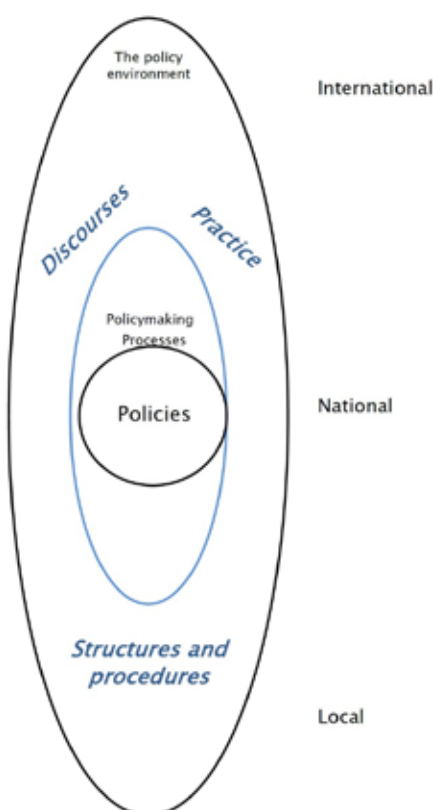
Combining concepts drawn from science and technology studies, political ecology and governance research, our framework starts with assumptions that a) science and policy are mutually constitutive, b) both institutional structures and individual agency affect governance processes and c) complex cross-level and cross-scale interactions affect governance outcomes.

## 2. Science–policy interactions and policy environments

### 2.1 Conceptual approach for multi-dimensional research into policy environments

The subject matter in the kind of research described here can be understood as a series of concentric circles (Figure 1). At the centre is a particular policy or perhaps a set of policies. The next circle out is made up of the set of social networks, institutions, incentives, and formal and informal policymaking processes and mechanisms, within which and through which policies are formulated. In the *Science–Policy–Practice Interface project*, the place and role of science in these policymaking processes is of particular interest. The third, broader circle relates to the synergistic and antagonistic interplay among the array of policies in place, institutional structures, discourses, power and interests, and the policy implementation through day-to-day practice. Together, these features of the second and third concentric circles constitute an emergent policy environment.

Figure 1: Policies, policymaking processes and policy environments.



The causal influence of the policy environment can be thought of as being directed both 'inwards' and 'outwards'. The policy environment exerts causal influence inwards in that diverse factors including power relations, institutions, and national and international discourses and the interactions amongst them all shape the ways in which stakeholders can and cannot interact in trying to influence policy, the ways in which science can and cannot inform policy, what policy options are on or off the table, and the nature of the policies that are created. The policy environment also exerts causal influence outwards, for instance on the kinds of actions that individuals, households and communities can take, enabling and constraining what is possible for livelihoods and for adaptation to climate change. The causality that flows from particular policies to livelihoods and adaptation choices can be thought of as through the policy environment.

The causal influence of the policy environment can be thought of as being directed both 'inwards' and 'outwards'. The policy environment exerts causal influence inwards in that diverse factors including power relations, institutions, and national and international discourses and the interactions amongst them all shape the ways in which stakeholders can and cannot interact in trying to influence policy, the ways in which science can and cannot inform policy, what policy options are on or off the table, and the nature of the policies created. The policy environment also exerts causal influence outwards, for instance on the kinds of actions that individuals,

households and communities can take, enabling and constraining what is possible for livelihoods and for adaptation to climate change. The causality that flows from particular policies to livelihoods and adaptation choices can be thought of as being transmitted through the policy environment.

The third concentric circle exists at multiple levels. Indeed, cross-level interactions are key aspects of the policy environment. Among these are interactions between international discourses, organizations, and funding priorities and national level policymaking processes; between policy and practice at the level of implementation; and between the implemented policies and actions taken at household livelihood level.

## 2.2 Delineating the case

The framework presented here is not directed at analysing particular policies or particular mechanisms put in place to help science to inform policy, but rather at understanding the science–policy interaction ‘space’ in some particular policy domain and the broader policy environment for that domain. In initially delineating a case, therefore, there may or may not be a focal policy or program. In some situations, there may have been fora, platforms and other policy dialogue processes all explicitly aimed at formulating a particular policy. In other situations, there may be initiatives directed towards a number of policies that would all contribute towards a common objective. Similarly, a case may involve a single science–policy interaction mechanism such as a policy platform; or it may involve a number of different such fora, platforms and formal policy processes; or there may, in some situations, be only informal channels through which science is influencing policy. In other words, in terms of the concentric circles described above, the starting point of defining the case is the second concentric circle, but the focus of study also incorporates the third, broader circle.

In delineating and initially describing the case, the researcher should aim to do the following:

- Describe the domain of interest (e.g. livestock policy as it pertains to pastoralist regions).
- Briefly describe how this domain relates to climate change.
- Summarize the main topical issues in this domain.
- Describe the focal policy, program, initiative, etc., if any (e.g. development of a livestock master plan for the country).
- Summarize the formal policymaking processes being used, including mechanisms—platforms, fora, policy dialogue processes, etc.—for stakeholder engagement and science–policy interaction<sup>1</sup>.
- Summarize the most important informal spaces of science–policy interaction in this domain.
- Identify the pathways through which the initiative of interest is implemented or translated into spaces that affect agro-pastoral livelihood practices.

---

<sup>1</sup> While an in-depth examination of policy platforms, multi-stakeholder fora and other mechanisms put in place for science to influence policy are important and in need of study, these are not the focus of the analytical framework described here. The scope of a study of cross-level science–policy–practice interactions will be much broader than these kinds of formal mechanisms. Describing such science–policy interaction mechanisms here, therefore, is intended to be brief and to be only one part of describing the case.



## 3. Initial analysis of science–policy interactions: Three lenses

The case being thus defined, analysis then takes a wider perspective to examine the broader policy environment and the policymaking process(es) within it. There are a number of factors that will affect policy environments and policymaking processes. The framework described here uses three main ‘lenses’ for examination of these factors based on three main categories of causal influences: discourses, structures, and power and interests. These three lenses should not be taken as entirely discrete categories, but are meant instead as heuristic tools for the examination of fundamentally intertwined factors.

### 3.1 Discourses

Discourses are institutionalized linguistic and narrative frames that shape actors’ interpretations of information, as well as inform their action choices. Discourses can interact in public and policy dialogues, whether synergistically or competitively, and are part of change processes. For example, rural development issues can be variously framed in terms of neo-liberal economic imperatives (e.g. privatization of land), moral imperatives (e.g. food sovereignty), technical imperatives (e.g. agricultural modernization), etc., all of which carry different assumptions, values and implications.

Discourses are complex phenomenon to study because they can be engaged in a variety of ways. On one hand, they can be strategically shaped and employed by actors in an effort to pursue political objectives. In this case, discourse is effectively an instrument of power. On the other hand, discourses can be internalized to the point where actors do not necessarily realize that there are alternative ways of framing an issue. In this case, discourses are more or less invisible to people reproducing them.

Discourse analysis may aim to understand what narratives shape activities in the particular sector or policy domain, how they are used strategically by various actors and how they affect material practices and outcomes. However, because of power dynamics, of who gets ‘a seat at the table’, and of other factors, the discourses that are present in a sector generally may not all find expression within specific policymaking processes. How discourses interact with structures, interests, power and practice is also important. Ideas, for example, work through interests and structures, and it is important to understand the ways in which each, and their interactions, determine outcomes for climate change adaptation (Purdon 2014).

Questions to consider with discourses related to climate change include: *What narratives around climate change affect how it is perceived by different actors and what kinds of policy responses are appropriate? What narratives beyond climate change affect how climate change is integrated into policy spheres? What kinds of adaptation options—incremental or more fundamentally transformative—are being considered?* (Table 1).

Table 1. Discourses: Research checklist

**What are the discourses?**

- What are the narrative frames through which change is understood and engaged?
- How do these interact in public and/or policy dialogues?

**What is the role of discourses in policy environments?**

- How, where and by whom are discourses used strategically?
- How, where and by whom are discourses embodied by individuals or institutions?

## 3.2 Structures and procedures

In examining science–policy interactions and working towards an understanding of what we have called a ‘policy environment’, the institutional structures within which the direct science–policy interaction and policy implementation take place will be important. Here we are placing the policymaking process within the realm of *governance*. The structures comprise the organizations, institutions, and relationships and interplay amongst them. Here we distinguish between *organizations and institutions*: Organizations are the collective actors in society; institutions are the rules and norms which provide the framework for action. Organizations are groups of people joined together to achieve a specific purpose; institutions are clusters of rights, rules, and decision-making procedures that give rise to social practice, assign roles to participants, and guide interactions (Young et al. 2008).

Some institutions take the form of procedures directing, for example, how interaction is to proceed, how decisions are taken, and so on. By shaping what kinds of questions are asked, which kinds of knowledge are privileged, what kinds of analyses are used and communicated, and what kinds of policy options considered, procedures can have an important influence on what kinds of climate adaptation responses are on or off the table. This may push the policy formulation processes to subtly favour either infrastructural, social, or economic types of interventions, either incremental or else transformational options, etc.

Diverse schools of thought in the social sciences have tended to treat institutions as epiphenomena—as features which are *caused by*, rather than features which cause, other phenomena. In such perspectives, the role of institutions in causality is primarily one of *transmitting* the influence of more fundamental and more powerful phenomena, whether these relate—depending on the particular social science paradigm—to power, to the calculation of interests, to norms and expectations, or to discourses. The framework described here, on the other hand, treats institutions and governance as important causal factors in and of themselves that shape as well as being shaped by factors such as power relations, interests, norms, modes of interaction, discourses, and cognitive framings. It also takes the stance that any of these factors can be relevant. Scott (1995), for instance, treated three main categories of influences on institutions as ‘pillars’ of institutions rather than as representing distinct paradigms. Scholarship on deliberation (Midgley 1992; Miller 1992; Smith 2003; Meadowcroft 2004; Stadelmaier 2006) and on complexity in social–ecological systems (Young 1999; Young 2010) suggests additional pillars. Each of these pillars implies certain causal pathways through which institutions can exert influence. These pathways, adapted from Young (1999), are summarized in Table 2.

Table 2. Pillars of institutions and corresponding pathways

Pillar	View of institutions	Pathways for effects of institutions
Regulative pillar	Institutions are rules created to constrain utility-maximizing individuals	Modify utility Enhance cooperation
Normative pillar	Institutions are manifestations of more fundamental norms, values and structures of society, reinforcing the norms and values in individuals	Coerce authority Bestow authority
Cognitive pillar	Institutions result from the interaction of alternative cognitive frames, in turn help to shape individuals' frames	Define identities and roles
Communicative pillar	Institutions result from the interaction of norms, ideas, objective reality and intersubjective communication	Shape discourses Facilitate learning
Complexity pillar	Structured social relationships within complex systems	Facilitate internal realignments  Change relationships, affecting system dynamics
Pathways reflecting mixed institutional functions	N/A	Enmesh actors  Shape expectations  Stepwise processes

Adapted from Young (1999)

Linkages and interplay amongst organizations and institutions can also be important. They can result in the sharing of information and other resources, enhancing the capacity of the entire institutional system; or they can be antagonistic with one structure acting as a hindrance to the other. Some stakeholders can derive influence from institutional linkages; some can be sidelined because of not being connected to key points of decision-making.

The questions which the researcher should aim to answer in relation to structures and procedures are summarized in Table 3.

Table 3. Structures and procedures: Research checklist

### What are the structures and procedures?

#### Organizations

- What organizations are influential?
- What are their mandates and interests?
- What are the sources of their power and legitimacy?
- What are their capacities in relation to shaping and implementing policy? What are the capacity weaknesses?

#### Institutions

- What are the relevant institutions:
  - For policy formulation?
  - For policy implementation?
  - Shaping how people respond to the policy environment?
- What does the institution do? Which causal pathway does it use?
- Among these institutions, are there institutionalized procedures shaping the policy formulation process?

#### Interplay

- What kinds of interplay are there?
- In what ways is the interplay synergistic/antagonistic?
- Which actors are *not* connected through this interplay?

### What is the role of structures and procedures in the policy environment?

- What is the role of structures and procedures in shaping policymaking processes (including formal interaction processes such as policy platforms and the place of science in such processes)?
- What is the role of structures and procedures in shaping how information from the grassroots feeds back into policy processes?
- What is the role of structures and procedures in shaping how policy is implemented?
- What is the role of structures in shaping how local actors respond to or take advantage of policies?

### 3.3 Practice

The previous two lenses are useful in analysing the discursive and institutional spaces in which policies are developed and implemented. However, where these two highlight structural elements of policy production, it is useful to balance them with analysis of how people exert agency within the context of the relevant discourses and institutions. The field of political ecology provides many conceptual tools for analysing how power is exerted through human agency in the context of institutional and discursive structures (Birkenholtz 2012; Ericksen et al. 2015). This implies looking how various actors draw on their skills, networks, power, discourses and institutions in order to pursue objectives and shape outcomes. This lens examines how people draw upon, interpret, circumvent, or resist institutional frameworks in order to pursue specific objectives that shape the policy environment and related outcomes and how people draw upon prevailing discourse or develop counter-narratives in order to pursue specific objectives that shape the policy environment and related outcomes.

In essence, this lens aims to look at policy as something that emerges through dynamic social processes and focuses on analysis of human agency as a central component of policy formulation and implementation. The practice orientation lends itself to analysis of cross-scale interactions, through close examination of what do people do (choice), and why and how do they do it (motivation and skill, respectively). This implies understanding the interplay of power and interests as an element of analysis. Power is conceptualized here as a relational quality that is exhibited through interaction with others in the definition and pursuit of objectives. The relations among different groups of actors, however, are invariably complex, often involving interests that are opaque to outsiders. It is also important that not all actors, nor even all government actors, will prioritize climate action or see it as being in their interest (Purdon 2014). Types of questions which the researcher should aim to answer in relation to practice are provided in Table 4.

Table 4. Practice: Research checklist

---

#### **What are the interests and practices?**

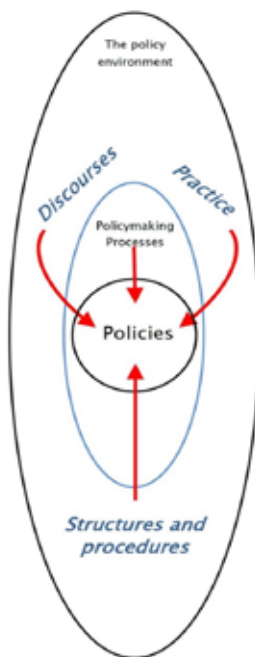
- What are the real material interests of different groups within the policy environment?
- How do people draw upon, interpret, circumvent or resist institutional frameworks in order to pursue specific objectives that shape the policy environment?
- How do people draw upon prevailing discourse or develop counter-narratives in order to pursue specific objectives that shape the policy environment?
- In what ways do people exert agency in policymaking processes? In response to policies in the broader policy environment?

#### **What is the role of practices in the policy environment?**

- 
- How to interests and practices shape policymaking processes (including formal interaction processes such as policy platforms and the place of science in such processes)?
  - What interests and practices shape how policy is implemented?
  - What practices shape how local actors respond to or take advantage of policies?
-

## 4. Synthesis

Figure 2: Tracing the influences on policy formation.



This research starts from the assumption that causality is complex, emerging from interactions among multiple factors. Policies do not cause outcomes in a linear fashion, but they interact with numerous other factors. Similarly, the heuristic lenses of discourses, institutions and agency do not operate independently of each other, but are necessarily intertwined in reality. As such, there is a need to synthesize this information and understand how the pieces relate in the context of the specific case<sup>2</sup>. It can be useful to ground the synthesis in the various social locations of governance, and the interactions between them. This enables the research to identify continuities, transformations and disjunctures that may occur through cross-level and cross-scale dynamics. Furthermore, it enables analysis of how discourses, institutions and practices manifest themselves in and affect day-to-day realities where climate stress and climate adaptation are engaged. Below, we suggest three social locations which are important for understanding cross-level dynamics of policy environments and some research questions that might be considered for each.

### 4.1 Local level dynamics and local–national interactions

- What does the emergent policy environment look like at the local level?
- How do discourses, structures and power and interests interact at the local level?
- How do policies interact? (Is there synergy/conflict? Do different policies push and pull in different directions?)
- What changes in the implementation of policy (Are some policies being implemented more effectively/quickly/completely than others?)
- What factors affect the implementation of policy?
- How do all of the above interact to enable and constrain different adaptation choices by individuals, households and communities?
- What are the main climate change adaptation issues at local level in this domain?
- What information (about livelihoods, about needs and aspirations, about adaptation choices, about the success and failure of policies, about the ways in which policies are being implemented) flows from individuals, households, communities, and organizations (including government agencies charged with implementing policies) upwards to policy processes?

<sup>2</sup> Purdon's (2014) review of adaptation and food security governance research presents a conceptualization based on three groups of political and economic factors: ideas, interests and institutions. While we have parsed these slightly differently, Purdon's analysis is useful in that it highlights why these three factors need to be considered together.

---

## 4.2 National-level dynamics

- How do discourses, structures and power and interests interact with each other?
- How do they shape policymaking processes?

## 4.3 National–international relations

- What information (about livelihoods, needs and aspirations, adaptation choices, the success and failure of policies, the ways in which policies are being implemented, policymaking processes, the objectives of national policy actors) flows from the national level policy environment upwards to international actors?
- How does the national level policy environment shape the ways in which international discourses, donor priorities, etc. are transmitted to national-level actors?

## 5. Research design

While this document describes a conceptual framework rather than a particular methodology, we offer here some broad suggestions as to how to structure research that is informed by this framework. Assuming that the researcher has identified a particular domain of interest (e.g. land policies in the livestock sector), he or she would then research what could be described as two types of case studies.

The first type is a case study of policy formulation. It would explore how the relevant policy or policies were formed, or are being formed, and what factors have influenced that. An examination of the role played by any fora, platforms or other formal policymaking mechanism played would feature prominently here, as well as an investigation of informal processes including social networks. In all of this the role played by science and scientists is of particular interest. This is a task of starting with policy formation and tracing causality backwards to understand what is influencing policy formulation, with particular attention to the role played by discourses, structures and practices. Figure 2 depicts some of the causal relationships of interest in carrying out a case study of policy formulation.

The second type is a case focused around policy implementation. This would be an exploration of how the policy or policies of interest are being implemented, including how in implementation they interact with other policies. This interaction of policies and their implementation, and the interaction between discourses, structures and practices and implementation, constitute the policy environment at sub-national levels. This component of the research would be concerned also with impact of the policy environment on adaptation choices.

A third component of the research aims to unite the two case studies into an overall analysis of policy formulation and implementation as a social process, highlighting it as an interacting set of practices within the aims to understand cross-level interactions and how scientific information is transformed as it moves through different social spaces. It would explore how the policy environment at national level affects the implementation space at more local levels, and ultimately how these in turn affect adaptation practices. It would also identify influences in the other direction, including tracing ways in which information from the local level, including information about the impact of policies on livelihoods and adaptation and also information on how policies are being implemented and the challenges being faced, is fed back upwards to inform policy formulation, if at all. This is potentially one of the roles of science in policy formulation—ensuring that information from ‘the ground’ is collected, understood and communicated to feed back into policy formulation. The cross-level aspects of the work would also consider influences on, and from, the international level.

---

## References

- Birkenholtz, T. 2012. Network political ecology: Method and theory in climate change vulnerability and adaptation research. *Progress in Human Geography* 36:295-315.
- Eriksen, S.H., Nightingale, A.J. and Eakin, H. 2015. Reframing adaptation: The political nature of climate change adaptation. *Global Environmental Change* 35:523-33.
- Meadowcroft, J. 2004. Deliberative democracy. In: Durant, R.F., Fiorino, D.J. and O'Leary, R. (eds), *Environmental governance reconsidered: Challenges, choices, and opportunities*. MIT Press, Cambridge, Massachusetts. Pp. 183–218.
- Midgley, G. 1992. Pluralism and the legitimation of systems science. *Systemic Practice and Action Research* 5(2):147–172.
- Miller, D. 1992. Deliberative democracy and social choice. *Political Studies* 40 (Special Issue, Prospects for Democracy):54–67.
- Purdon, M. 2014. The comparative turn in climate change adaptation and food security governance research. CCAFS working paper no. 92. CGIAR Research Program on Climate Change, Agriculture and Food Security, Copenhagen.
- Scott, W.R. 1995. *Institutions and organizations*. Sage Publications, Thousand Oaks, CA.
- Smith, G. 2003. *Deliberative democracy and the environment*. Routledge, London.
- Stadelmaier, F. 2006. *On the emergence of ESDP and EU-NATO cooperation*. Humboldt University of Berlin, Berlin.
- Young, O.R. 1999. *The effectiveness of international environmental regimes: Causal connections and behavioral mechanisms*. MIT Press, Cambridge, Massachusetts.
- Young, O.R. 2010. Institutional dynamics: Resilience, vulnerability and adaptation in environmental and resource regimes. *Governance, Complexity and Resilience* 20(3):378–385.
- Young, O.R., King L.A. and Schroeder, H. 2008. *Institutions and environmental Change: Principal findings, applications and research frontiers*. MIT Press, Cambridge, Massachusetts.



ISBN: 92-9146-465-1



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a CGIAR research centre. It works through a network of regional and country offices and projects in East, South and Southeast Asia, Central, East, Southern and West Africa, and in Central America. [ilri.org](http://ilri.org)



CGIAR is a global agricultural research partnership for a food-secure future. Its research is carried out by 15 research centres in collaboration with hundreds of partner organizations. [cgiar.org](http://cgiar.org)