



Research, part of a Special Feature on [Realizing Water Transitions: The Role of Policy Entrepreneurs in Water Policy Change](#)

Policy Entrepreneurs and Change Strategies: Lessons from Sixteen Case Studies of Water Transitions around the Globe

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ABSTRACT. This paper focuses on the role of policy entrepreneurs in realizing water policy transitions. The central questions are to what extent have policy entrepreneurs played a role in realizing major change in water policies, who are these policy entrepreneurs, and what strategies have they used to bring about change? The policy science literature suggests that policy entrepreneurs have an "arsenal" of possible strategies for achieving change. Based on a comparative analysis of water policy changes in 15 countries around the globe and the European Union, we investigate which strategies have in practice been used by policy entrepreneurs, to what effect, and which lessons for managing water transitions we can draw from this. The comparative case analysis shows that individuals play complementary roles; hence, entrepreneurship in water management is often collective entrepreneurship. Strategies of coalition building, the manipulation of decision making forums, and the strategic framing of issues and windows are crucial to understanding water policy change, which suggests that the management of water policy transitions is a highly political game. We conclude by listing recommendations for those who would like to direct water policy change.

Key Words: *change strategies; international comparison; policy change; policy entrepreneurs; transition management; water management*

INTRODUCTION

In the introduction to this special feature we developed a typology of strategies that policy entrepreneurs can potentially use to realize water policy transitions, which we equate with major changes in water policies. This article presents the results of 16 in-depth analyses of the role of policy entrepreneurs in realizing major change in national water policies (Huitema and Meijerink 2010). For each of these transitions, we assess whether or not radical policy change was indeed affected by individuals, and if individuals did play a role, which strategies they have used to affect change. The purpose of this article is to refine the typology that was presented in the introduction to this special feature, and to explore the possibility of a more generic theory of change strategies. One question of interest then is how much do the particular institutional arrangements either facilitate or rule out different types of strategy, or can we identify similarities among cases that indicate where and

when certain types of policy entrepreneurs and strategies might be successful?

The analysis presented here goes beyond the four country studies presented in this special feature. In Huitema and Meijerink (2009a), we present 11 additional country studies along with an analysis of water transitions in the European Union (EU). Together, these 16 accounts of major change in water policies provide a solid empirical basis for investigating the role of policy entrepreneurs in realizing water policy transitions. What kind of transitions did we observe in these 15 countries and the EU? We found examples of both substantive transitions, such as the transition from structural flood defense to integrated flood risk management, and governance transitions, such as the privatization of water services, decentralization, and the move to more participatory forms of governance. It is important to reiterate that our interest was in the adaptability of political systems. Therefore, our interest was in explaining the role of policy

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entrepreneurs in realizing major policy change irrespective of the direction of that change; hence, the transitions analyzed do not necessarily contribute to a more sustainable management of water resources. Table 1 gives an overview of the transitions analyzed in the various countries and the European Union.

The water transitions analyzed involve strongly diverging contexts, some arising in low-income countries, others in middle-income or high-income countries. Some occurred in democracies and others in semi-democracies or authoritarian regimes. That is why the most different systems approach, as described in the introduction to this special feature, can be applied. If we consistently find a connection between the activity of policy entrepreneurs and major policy change across such diverse contexts, this supports our hypothesis that policy entrepreneurs play a crucial role in realizing water policy transitions. In this article, we first reflect on the patterns of continuity and change in the various case studies, and the difference between the adoption and implementation of new policies. Next, we confirm that policy entrepreneurs were involved in all transitions analyzed here, and we discuss the types of policy entrepreneurs who have played a role in the cases studied. This leads to questions such as were they individuals or organizations, and to what extent were they able to make a difference? Are policy subsystems changed from within, that is, by governmental bureaucracies and/or elected politicians, or by “outsiders”, such as non-governmental organizations (NGOs) and scientists? We then address the central questions of our research: What strategies have policy entrepreneurs used to realize water transitions, and have these strategies been successful? What strategies are used to block transitions, and have they been successful? And how does the institutional context constrain or enable the activities of policy entrepreneurs? We conclude by summarizing the main lessons learned from the various examples of policy entrepreneurship featured in the case studies, and addressing both potential pitfalls and possibilities for improving the chances for a successful navigation of water transitions (see also Olsson et al. 2006).

CHANGE ON PAPER VERSUS CHANGE ON THE GROUND

Various theories of the policy process, such as the advocacy coalition framework (Sabatier 1993),

punctuated-equilibrium theory (Baumgartner and Jones 1991), and historical institutionalism (for example, Pierson 2000), distinguish between major, radical, or paradigmatic policy change and incremental or shallower forms of policy change.

The countries studied all demonstrate policy dynamics and offer clear examples of major change embodied in either the content of water policies or in the overarching governance paradigm. One of the lessons from the 16 case studies, however, is that even though such radically new policies may have been adopted, they have neither replaced existing policies entirely nor have they been implemented fully. te Boekhorst et al. (2010), analyzing the introduction of integrated river basin management (IRBM) in China, conclude that “The introduction and implementation of IRBM as a new paradigm can be regarded as the emergence of resistance to the Chinese hydrological mission and its unintended consequences. However the ongoing execution of large hydro-engineering projects indicates a competition between two paradigms and an outcome that has still to be determined.” Ingram and Lejano (2009), writing on U.S. water policies, similarly argue that existing ways of knowing water are persistent even when alternative framings (meanings) of water issues are introduced. In addition, the case studies of flood management in Hungary (Werners et al. 2010), Germany (Becker 2009), and the Netherlands (Huiteima and Meijerink 2009b) all demonstrate how newly adopted policies of ecosystem-based water management and flood risk management put pressure on stable policy communities, but in none of these cases has the “old” hydrologic paradigm of fighting the water by regulating rivers and constructing dikes disappeared completely. Rather, in some cases, policy entrepreneurs tried to integrate, combine, or balance the “old” engineering and “new” ecological approaches, while others actively attempted to frustrate the change in direction.

The same tension between newly adopted and existing policies can be observed in the case studies of governance transitions. Although many newly adopted policies emphasize the need for stakeholder and public participation in water management, many governance practices are still based on more traditional modes of governance. The Thai and Tanzanian examples show how new rules and procedures overlaid existing local institutions without replacing them and without formally addressing the way in which they were supposed to

Table 1. Substantive and governance transitions analyzed in the case studies presented.

Country/region	Transition analyzed	Source
Substantive transitions		
United States	Transition from single purpose to integrated water resources management	Ingram and Lejano (2009)
China	Transition from hydraulic paradigm to ecosystem-based water management	te Boekhorst et al. (2010)
Thailand	Transitions from: <ul style="list-style-type: none"> • diversion in wet seasons only to all year-round irrigation • giving priority to farming to giving priority to urban and industrial users • emphasis on consumable quantities of water to the service-rendering quality of water 	Lebel et al. (2009)
Australia	Transitions from: <ul style="list-style-type: none"> • economic water use only to environmental water allocation • unregulated to regulated ground water use 	Hughes and McKay (2009)
South Africa	Transition from extraction and pollution of mining water to pollution prevention	Turton (2009)
Hungary	Transition from hydraulic paradigm to ecosystem-based river management	Werners et al. (2010)
Spain	Transition from supply-based water management to demand management	Font and Subirats (2010)
Germany	Transitions from a traditional technocratic safety discourse to an ecological risk perspective	Becker (2009)
The Netherlands	Transition from hydraulic paradigm (construction of dams and dikes) to space for the river and river restoration	Huitema and Meijerink (2009b)
Governance transitions		
Mexico	Privatization (creation of water markets, introduction of water pricing), decentralization, introduction of participatory governance (establishment of water user associations)	Wilder (2010)
India	Decentralization, introduction of participatory governance (establishment of water user associations)	Narain (2009)

(con'd)

Indonesia	Decentralization, introduction of participatory governance (establishment of water user associations)	Bhat and Mollinga (2009)
Tanzania	Privatization, decentralization, introduction of participatory governance (establishment of water user associations)	Goldin and Kibassa (2009)
European Union	Marketization (introduction principles of full cost recovery and water pricing), introduction of participatory governance (public participation, stakeholder participation)	Partzsch (2009)
Turkey	Privatization of water services, decentralization, introduction of participatory governance (establishment of water user associations)	Kibaroglu et al. (2009)
Sweden	Transition from non-adaptive towards adaptive institutions	Olsson and Galaz (2009)

interact (Goldin and Kibassa 2009, Lebel et al. 2009). As a consequence, prior institutions persist and sometimes continue to dominate decision-making processes, for example in areas where local irrigation organizations are still active. In other cases, such as in Indonesia, the management and maintenance of irrigation systems was formally decentralized, but the central government continued to play a crucial role in funding and monitoring, hence, continued to be a powerful actor in irrigation management (Bhat and Mollinga 2009).

These observations underscore the need to conceptualize policy transitions as a multiple step process: there is a difference between changing policies on paper and changing policies on the ground. It is well known from the literature that even if formal policies change radically, implementation constitutes a new round in the policy game, where established routines are often less amenable to change. Several case studies illustrate this dynamic, since opponents of policy change have often successfully blocked the implementation of radically changed policy.

It is possible, of course, that “old” substantive and governance paradigms or discourses will be replaced entirely in the long run, but many of the transitions that we have studied have not yet reached that stage and may never reach it. Indeed, in many countries, such as Thailand (Lebel et al. 2009) and Tanzania (Goldin and Kibassa 2009), it may not be desirable for former practices and concepts to disappear completely. Integration of valuable new and old components might well form an element of a transition towards more sustainable water management.

POLICY ENTREPRENEURS

Introduction

The authors of the case studies were asked to use an agency perspective, that is, to find out who is behind the changes observed and to focus on the roles and strategies of the individuals or organizations so identified. The various case studies provide ample evidence for the crucial role of key individuals and organizations in realizing transitions. Individual policy entrepreneurs stood out as agents of change in many cases, but it proved difficult to pinpoint individuals in the case studies on China, Thailand, South Africa, Tanzania, and the EU. In the latter cases, the analysis focused primarily on the roles and strategies of organizations. This occurred for various reasons. Firstly, the social science training of some of the authors focuses on organizations and collectives, leading to inexperience or even unease with analyzing the role of individuals and presenting detailed accounts of their strategic behavior. Secondly, some authors faced a substantive difficulty in that entrepreneurship is often a collective undertaking, where a small group of individuals navigates a transition, each representing different organizations and playing a different role. An additional complicating factor in identifying key individuals comes with “the politics of claiming success”. If a transition is generally perceived as successful, many parties and persons will claim responsibility for the success. Because the reputations of individuals and sometimes also powerful organizations are at stake, the claiming of success is a political game. Success may well be attributed to those most adept at playing the media. The contribution of those lacking the necessary promotional skills may be thought less important

for a particular transition. For this reason, the case studies draw largely on document analysis and multiple interviews with individuals who played a key role in the transition process (methodological triangulation). Existing accounts of policy change, as available for the Netherlands for instance, proved instrumental in this way. The consideration of someone, some organization, or some group as key in either realizing or blocking change receives support when both documents and a majority of respondents refer to the same person, organization, or group, thus increasing the credibility of the findings.

Individual policy entrepreneurs

The observations on our cases corroborate Kingdon's thesis that individual policy entrepreneurs can be found anywhere (Kingdon 1995), including within governmental bureaucracies, political parties, NGOs, or expert communities. These individuals share a common willingness to invest their resources (time, reputation, and/or knowledge) in a particular proposal for policy change and possess good networking skills. What is more, most of these entrepreneurs demonstrated considerable perseverance: they often worked on particular transitions during significant parts of their career or they had to make changes in their career to achieve the transitions they sought.

Experts within the bureaucracy and the scientific community have played a major role in all cases studied. This is not surprising given the highly technical nature of the water sector. Both the Dutch and German case studies refer explicitly to the potential for contribution to policy change by a "new guard", which is a group with a new, different scientific-disciplinary background (in these cases, biologists and ecologists) that has managed to occupy crucial positions within research institutes and governmental bureaucracies (Becker 2009, Huitema and Meijerink 2009b).

Collective policy entrepreneurship

Although the cases illustrate the role of key individuals as change agents or obstacles to change, most cases also demonstrate the importance of groups in successfully challenging the status quo. Such groups often consist of representatives of government agencies at various levels of

government, thus creating connections among various scales and levels of decision-making, NGOs, and/or research groups. Thus, most entrepreneurship we found is collective. Collective policy entrepreneurship holds two main advantages. First, people in different positions may draw on a different arsenal of strategies to influence a change trajectory. Where experts working at either governmental research institutes or universities have excellent possibilities to develop and test new ideas and approaches, senior policy advisors or politicians generally are in a better position to help achieve the adoption of new policies. Second, people may have different capacities and skills irrespective of their positions. Some have charisma and are adept at explaining their vision to the media. Others possess skills in developing new policy concepts or in finding common ground with multiple stakeholders.

Our cases confirm that shadow networks, formed by actors operating on the fringes or outside the formal circuits of power, are important for effecting policy change. Huitema and Meijerink (2009b) show that several officials working on alternative approaches to water management in the Netherlands had to do so with only silent support from their superiors and eventually had to take jobs outside the bureaucracy. A "shadow position" achieved in this way gave them greater flexibility in advancing their ideas. Similarly, ideas about radically different approaches to water management were developed in shadow networks of academics and NGOs in Hungary (Werners et al. 2010), Spain (Font and Subirats 2010), and India (Narain 2009). Returning to our first observation of the importance of collectives in effecting transitions, we must conclude that shadow networks are especially important in the phase of idea development and, in several cases, also in showing the applicability of their ideas in principle through pilot projects. The actual uptake of their ideas requires interaction with the formal policy network and gives politicians, former politicians, and high-ranked bureaucrats a key role with their ability to translate the innovations into new policy. This is consistent with the finding of Olsson et al. (2006) that members of such shadow networks develop and test new ideas in the shadow of formal decision-making arenas but need to develop links to formal decision networks to successfully challenge a dominant policy paradigm.

The special case of donor organizations

While entrepreneurial bureaucrats, politicians, experts, or representatives of NGOs may play a role in all countries, in low-income or middle-income countries they are joined by another type of policy entrepreneur in the form of the various international donor organizations. Donor organizations, such as the World Bank, the International Monetary Fund, Inter-American Development Bank, and the Asian Development Bank, played a crucial role in shaping water policy transitions in Indonesia (Bhat and Mollinga 2009), Mexico (Wilder 2010), Tanzania (Goldin and Kibassa 2009), Thailand (Lebel et al. 2009), and Turkey (Kibaroglu et al. 2009). While offering help for the resolution of financial crises or capital for investment in the water sector, they also attach conditions on national governments. Such conditions often entail fundamental changes in governance regimes, including privatization, decentralization, and participatory governance (for example, by the establishment of water user associations in irrigation management). Funding conditions are often in line with the paradigm of integrated water resources management, but the way in which some of these elements are implemented varies greatly across the case studies. In several cases, a perversion of notions such as public participation and privatization can be observed as elites use their control over the national state to create advantages for themselves (see for example Goldin and Kibassa (2009) on the Tanzanian case).

THE STRATEGIES OF POLICY ENTREPRENEURS

Introduction

How, then, did policy entrepreneurs realize change, and what strategies have they used? Strategic analysis always runs the risk of rationalization with hindsight of the actions of the players involved. That policy entrepreneurs were relevant in all countries does not necessarily mean that all transitions were plotted or the result of anticipatory and strategic behavior. Often, transitions can only be nudged, not managed. Policy entrepreneurs differ in their awareness of decision processes at different levels of governance and their capacity to act or intervene at particular levels. The Spanish change coalition did show such awareness, as they used the EU

venues to put pressure on the national government (Font and Subirats 2010). In the Hungarian case, however, the change agents had not developed a strategy to link their ideas of ecosystem-based water management to formal decision-making forums, and the adoption of their plans resulted from a more serendipitous process, which they did not necessarily completely foresee (Werners et al. 2010).

Strategies for developing and disseminating new ideas within multi-level governance networks

Our set of cases shows striking similarities in the ways in which water management issues are framed and how transitions of a similar type are being shaped in many countries around the globe. International NGOs, such as the World Wide Fund for Nature (WWF), have contributed to the dissemination of the concepts of river restoration and river basin management. These observations bring to mind the analogy made by Richardson (2000) between policy ideas and viruses. Just like viruses or memes, some policy ideas and discourses are contagious and spread around the globe.

However, different types of policy entrepreneurs have clearly used variegating sets of strategies to spread these ideas. Donor organizations are able to mandate change through the formulation of strict funding conditions, including demands for governance transitions. Organizations such as the World Bank and the International Monetary Fund have been particularly successful in disseminating the ideas of privatization and decentralization of water management (Gupta 2009). It is not a coincidence that countries such as Turkey (Kibaroglu et al. 2009), Mexico (Wilder 2010), India (Narain 2009), Tanzania (Goldin and Kibassa 2009), and Indonesia (Bhat and Mollinga 2009) all present examples of efforts to privatize and decentralize water and irrigation policies. It may be argued that in these countries the national governments actually had little choice but to change their governance paradigm. It should be noted, however, that there are certain instances where government elites on the national and regional levels gain personal benefits, in the form of both influence and new job opportunities, from funding by international donor organizations (for example, Goldin and Kibassa 2009).

Various case studies lead to serious questions regarding the effectiveness or even appropriateness of externally and centrally enforced forms of top-down transitions. The Tanzanian case study serves as an interesting example of how colonists in the past introduced a new system of water management that destroyed much of the adaptive capacity embedded in local and tribal networks (Goldin and Kibassa 2009). Cynics might argue that this colonialism is not over yet because the studies of transitions in India (Narain 2009), Indonesia (Bhat and Mollinga 2009), Mexico (Wilder 2010), and Tanzania (Goldin and Kibassa 2009), and of EU external water policies (Partzsch 2009) demonstrate how western countries continue to implement their western-developed models of “good governance” in a non-western context. Indeed, various international water and governance discourses reveal a general pattern of the uploading of ideas developed in the western world to the international level and their subsequent downloading in other parts of the world (Gupta 2009).

The strategy that donor organizations use to influence national water policies is entirely different from the strategies that most other policy entrepreneurs, possessing different resources to influence decision-making processes, tend to use. What these policy entrepreneurs have in common with donor organizations is that they carry a particular set of ideas, whether it is a belief in the merits of water markets, water pricing, participatory governance, or ecosystem-based river management, and undertake efforts to get these ideas realized. However, whereas donor organizations are in a position to impose policy change through the formulation of conditions to funding, most other policy entrepreneurs need to gain attention for and attract supporters to their ideas first. Small-scale pilot projects are often used to demonstrate the feasibility and benefits of their newly proposed approaches. Examples include the Bokartisz coalition of municipalities and pilot sites for floodplain rehabilitation in the Bodrogköz area in Hungary (Werners et al. 2010), WWF and wetland restoration in Dongting Lake in China (te Boekhorst et al. 2010), and the authors of the Plan Stork and nature development along the Dutch main rivers (Huitema and Meijerink 2009b). Policy entrepreneurs in these cases used the media to communicate the results of such projects, to disseminate their ideas, and to change people’s perceptions and mental models (Olsson and Galaz 2009).

Almost all transitions suffer from implementation problems, which are usually caused by a conservative bureaucracy that wants to maintain the status quo. The transitions instigated from the international level encounter problems in “scaling down”. Especially when they are meant to empower local parties, water user associations, etc., they will be treated with hostility by the bureaucracy. There is a qualitative difference between transitions towards privatization and transitions towards decentralization and river restoration. The latter types of transitions tend to run into greater implementation problems (Indonesia, India, Hungary are cases in point) than the first (see the description of transitions in Mexico (Wilder 2010) and Tanzania (Goldin and Kibassa 2009)). This difference may have something to do with the fact that privatization is more easily implemented in a way that is beneficial to the ruling elite.

Whether or not implementation difficulties can be overcome depends on political support from top leaders and from the institutional environment these leaders operate in. In both the Chinese and Indian transitions, support from high political leaders was present and important for creating changes on the workshop floor level (Narain 2009, te Boekhorst et al. 2010), but the Chinese institutional structure is more centralized and thus offers greater chance of actual implementation once such support is guaranteed. It should be noted, however, that even under the most favorable conditions, most policy changes remain “partial transitions” in the sense that old and new policies tend to coexist in most countries. In this respect, it is interesting to note how many recent ideas for river restoration and institutional design are inspired by ancient ways of water management that are still practiced in niches (take the Hungarian, Dutch, German, and Thai examples). Under the “hydraulic mission” of canalization, damming, etc., such ways were often more or less forgotten or moved to the fringe, but they have recently regained prominence as more sustainable water management approaches.

Building coalitions: balancing between advocacy and brokerage

This brings us to the strategies for gaining support for new ideas and building successful coalitions and alliances. In the country studies, we see three types of coalitions. First, a coalition can be made up of those who share the same or very similar ideas,

beliefs, and values. They share either a common disciplinary background, that is, they may be part of an epistemic community, or they share certain ideas, beliefs, and convictions unrelated to any particular discipline. Typical examples include environmentalist or pro-development coalitions, which we, for example, have seen in the Netherlands case study. The primary activity of such a coalition is advocacy of a particular set of ideas, as in the Netherlands case, ideas of ecosystem-based and greener water policies. Premised on a stance at once ontological and epistemological, similarities in belief systems or shared meanings, are found to be the binding element of these coalitions.

A second type of coalition, which elsewhere we have called a strategic alliance (Meijerink 2005), is a coalition between parties who do not share the same policy beliefs, value preferences, or world views; nevertheless, they share an interest in realizing a particular sort of policy change. Partzsch (2009), in her account of the development of the EU Water Framework Directive, describes how the water industry and environmental NGOs joined forces because they shared an interest in water pricing, although for entirely different reasons. Whereas the drinking water companies hoped to benefit financially from this governance transition, the environmentalists wanted to ameliorate surface water quality and to restore water ecosystems. The Netherlands case quite similarly shows how a coalition of fishermen, who tried to safeguard their income, and environmentalists, who wanted to preserve the estuarine ecosystem, formed a successful alliance that opposed plans to close an estuary (Huitema and Meijerink 2009b). Finally, Font and Subirats (2010) show how economists, environmentalists, and (water) donor regions, each with different beliefs, interests, and ways of knowing water, jointly opposed the traditional supply-based engineering approach in Spain.

A third type of coalition includes parties who neither share beliefs or problem perceptions nor policy preferences but are simply dependent on each other for realizing their diverging objectives. Policy transition is incidental to the successful achievement of the separate goals of the coalition members. While shared beliefs or meanings and shared policy objectives form the glue that binds advocacy coalitions and strategic alliances, respectively, resource dependence forms the rationale behind this third coalition type. Successful change agents clearly have an eye for the

preferences and desires of other parties and try to meet their demands, winning support for their proposals in the process. For example, WWF managed to gain support for ecosystem restoration projects in China by addressing the economic needs of the local population at the same time (te Boekhorst et al. 2010). Coalition building among parties with different value priorities and policy objectives often entails processes of negotiation and compromise, similar to the formation of a coalition government in a multi-party system. Successful policy entrepreneurs, therefore, have to balance continuously on the continuum between advocacy and brokerage (Kingdon 1995). On the one hand, they must be good advocates of specific concepts. They need to be able to communicate their ideas and message in an appealing and convincing way. On the other hand, they need the skills to negotiate and cooperate with those who have different ideas, world views, or interests but who possess crucial resources. Expanding on our finding that successful entrepreneurship is often collective entrepreneurship, the cases presented show that different persons may play complementary roles: while some may excel in generating new ideas, others are particularly skilled in advocating those ideas, and still others have the capacity to broker or negotiate.

Policy entrepreneurs can also benefit by understanding the importance of building networks across different “ways of knowing” water (Ingram and Lejano 2009). Boundary organizations or key individuals can play a crucial role in connecting various ways in which water issues are framed, thereby inserting new values and perspectives. For example, Olsson and Galaz (2009), in their Sweden case study, explain how a key individual managed to change the perception of politicians from seeing wetlands as a problem (“water sick”) to seeing them as a valuable resource (“water rich”). The policy entrepreneur in question did so by developing and applying landscape-level solutions to environmental problems, solutions originated by networks, and by linking proposals to additional goals such as regional development. Where Ingram and Lejano point to the usefulness of brokering between (or connecting) various ways of knowing, Narain (2009) and Lebel et al. (2009) insightfully show how discursive strategies may also be used strategically by both advocates of change and those who try to block it. Such discursive strategies can be used to attract supporters to new policy proposals and to justify policy interventions. Lebel et al. (2009) distinguish between various powerful framings,

such as the “drought narrative”, the “forests make water narrative”, and the “living with the river narrative”. In their study of policy change in the Upper Ping Basin, they found that adherence to such narratives formed a key strategy for individuals wishing to promote and secure policy changes. Players in the transition would, for example, try to fit new policy ideas into existing narratives, or conversely, appeal to such narratives to oppose change. Their analysis also demonstrates how the very same narrative used to promote one particular water transition can be used as a counter-narrative to block another water transition.

Anticipating, manipulating, and exploiting windows of opportunity

Coalition building and shared meaning making, however, are not sufficient for realizing change. Policy entrepreneurs need opportunities to launch their ideas. The case studies repeatedly illustrate the importance of windows of opportunity in water policy transitions. Table 2 gives an overview of some of the key windows that were found to be of relevance in the case studies.

Several examples exist of policy entrepreneurs who successfully exploited crises. Media coverage of environmental emergencies, like sea or river floods, periods of extreme drought, or cases of accidental pollution, raises public awareness, thus increasing political attention to specific water problems. Both public and political attention to an issue offers opportunities for policy entrepreneurs to gain support for new insights, policy proposals, and policy directions. The river floods in Hungary (1998, 2001), Germany (2002), Thailand (2005), and China (1998), and the sea (1953) and river floods (1993 and 1995) in the Netherlands all offered windows of opportunity to launch or articulate ideas of ecosystem-based water management and of creating more space for the water.

As can be easily appreciated from the literature (Birkland 1997, Boin et al. 2009), the framing of such flood events is a crucial strategy here. In the Netherlands case, the river floods mentioned above could either be framed as a sign that insufficient resources had been allocated for realizing and maintaining structural flood defenses or as a sign that the policy paradigm of controlling the water with technical infrastructure had failed. The (near)

river floods of 1993 and 1995 and the resulting large-scale evacuation of residents dramatically increased awareness of water issues and policy. Although new plans for creating more space for the river had been developed in the early 1990s, the floods actually threatened to reinforce former policies. The Ministry of Traffic and Water Management, with strong support from the Dutch parliament, was very determined to make rapid improvements to the weaker points in the dykes, even if this meant sacrificing attractive landscapes. Alternative ideas received relatively short shrift as Parliament adopted emergency legislation that allowed for quick and centralized decision-making (Huiteima and Meijerink 2009b). The proponents of a greener approach to water management had to operate very carefully in this situation because their ideas could easily have been thrown aside. By cautiously linking their ideas to the public’s desire for safety and ensuring that their approach would not be eliminated from official policy documents, they were able to prevent the pendulum from swinging back to earlier policy models.

Other examples of such “framing contests” (Boin et al. 2009) can be found in the case studies on Thailand and Hungary. In the Hungarian case study, the framing contest centered on the causality of the river floods (Werners et al. 2010): “The cyanide spill and Bereg flood occurred as parties were campaigning for the 2002 elections. Whereas the water authority supported a hard engineering approach, Bokartisz was advocating its new ideas. The engineering approach was criticized by the NGOs and individual scientists for adding to the flood risk and causing unwanted side-effects in the region.” The case studies of strategic framing of disasters show that policy entrepreneurs engaged in a framing contest over the causality of such disasters and the desirability of specific policy options but did not turn to the framing of disasters as lapses of leadership by responsible authorities. This may be explained partly by their dependence on the responsible authorities for achieving change. Rather, the policy entrepreneurs saw problem windows primarily as opportunities to launch their policy alternatives, to stress the merits of those alternatives, and to position themselves better to think in line with and cooperate with policy-makers. The development and marketing of attractive policy alternatives that take into account the interests of many stakeholders have taken precedence as the strategy employed by policy entrepreneurs who are presented with windows of opportunity.

Table 2. Windows of opportunity arising in the cases studied.

A. Problem windows

Country	Problem window analyzed
Mexico	Asian financial crisis
China	Yangtze River flood 1998
Thailand	Financial crisis 1997–98 Upper Ping River flood 2005
Indonesia	Financial crisis 1997–98 Severe drought caused by El Niño
Australia	Severe drought 1990s
Hungary	Tisza River flood 1998, 2001, and 2006 Cyanide spill Tisza River 2000
Turkey	Economic crisis of the 1980s
Germany	Rhine River flood 1993 and 1995 Elbe and Donau River floods 2002
The Netherlands	Sea flood 1953 (Near) Rhine river floods 1993 and 1995 Extreme rainfall 1996 and 1998

B. Political windows

Country	Political window analyzed
United States	Appointment of Secretary of the Interior Bruce Babbitt 1993
Mexico	Regime change 1990s
Thailand	Regime changes 1991, 1997, and 2006
Indonesia	Regime change 1998
South Africa	Regime change 1994
Hungary	Elections 2002 and 2006
Spain	Elections 1996 and 2004
Turkey	Political crisis of the 1980s
The Netherlands	Elections 1973

In all cases of river floods analyzed, the new policies, which were adopted afterwards, had been developed and implemented on a small scale before the focusing event took place. In the Netherlands, the regional “Plan Stork” preceded the adoption of the generic “space for the river” policies (Huitema and Meijerink 2009b; the Hungarian “Bokartisz coalition” had gained experience with floodplain restoration in the Bodrogek area before this approach was adopted at the national level (Werners et al. 2010); and in Germany, floodplain restoration in Baden-Wuerttemberg and flood risk management in Rhineland-Palatinate were later taken up at the national level (Becker 2009). These occurrences fit perfectly with Kingdon’s multiple streams model, in which policy alternatives in circulation can be attached to new problem definitions when a window opens (Kingdon 1995). They also underscore Olsson et al.’s (2006) argument that systems need to be prepared in readiness for change.

Several case studies point to the relevance of crises outside the realm of nature or even the water management subsystem. Examples include the Asian financial crisis (Bhat and Mollinga 2009, Lebel et al. 2009) or the economic crisis in Turkey (Kibaroglu et al. 2009). Where floods or natural disasters offered opportunities to garner active assistance and encouragement for substantive policy changes, exploitation of financial and economic crises aimed primarily to realize change in water governance, most notably toward privatization and decentralization.

Political windows also have a role to play in most of the case studies. Such windows range from those created by regime change, as in the case studies of South Africa (Turton 2009), Indonesia (Bhat and Mollinga 2009), Mexico (Wilder 2010), and Thailand (Lebel et al. 2009), to the change of an elected government or a single minister, as in the election of the Den Uyl administration in the Netherlands in 1973 (Huitema and Meijerink 2009b), the appointment of the Indonesian reform President Abdurrachmann Wahid (Bhat and Mollinga 2009), or of Secretary of the Interior Bruce Babbitt in the United States (Ingram and Lejano 2009). Some researchers characterize contemporary society as postmodern and typified by new modes of governance and forms of deliberative democracy that are taking over the central role of traditional party politics. Many case studies, however, demonstrate the crucial importance of traditional party politics, general elections, and changes of

national governments as factors in water policy transitions. The case study on hydro-politics in Spain offers a clear example: while the conservatives insisted on traditional supply-based solutions to the issue of water shortages, the socialist party demanded more sustainable alternatives (Font and Subirats 2010). This is not to say that politics is the main driver of change; in most cases it is not. Political changes, however, can offer opportunities to gain attention for new ideas and to secure a place for new issues on the political agenda.

Connecting informal to formal networks: the exploitation, manipulation, and creation of venues

The transitions analyzed in countries as different as Indonesia, China, Mexico, and the Netherlands all feature examples of actors who deliberately manipulated the composition of advisory or decision-making forums. In the China case study, the WWF managed to gain a seat in an influential national task force on river basin management (te Boekhorst et al. 2010); a minister in Indonesia purposefully moved a specific department from one ministry to another in order to minimize the influence of the conservative old guard (Bhat and Mollinga 2009); in Mexico, an environmental minister engineered the transfer of the national water commission from the Agriculture and Fisheries Ministry to the new Ministry of the Environment and Natural Resources (Wilder 2010); and in the Netherlands, decision-making on the Eastern Scheldt storm surge barrier saw the government deliberately install an interdisciplinary advisory commission, thereby breaking the monopoly of the influential Rijkswaterstaat engineers (Huitema and Meijerink 2009b). Those who engage in venue manipulation aim to have their own ideas or their coalition represented where policy-relevant issues are discussed and to bypass those who resist the change proposed.

Venue shopping has also proven to be an effective strategy in several cases. The Spanish case study, for instance, shows how a coalition of parties seeking support for alternatives to traditional supply-based engineering solutions played the various EU venues successfully; this strategy increased pressure on the Spanish national government to change the planned policy program (Font and Subirats 2010). The need to link various scales and levels of government is noted by most

authors. For local initiatives to be scaled up, they need to be linked to policy arenas on a higher level.

Finally, policy entrepreneurs may deliberately create new forums to bring people together, often to discuss problems, as seen for example in the U. S. case (Ingram and Lejano 2009), and in the dialogues on water policy in Indonesia that were organized by international organizations and the Ford Foundation (Bhat and Mollinga 2009). The Tanzania case shows that such forums, even if formally adhering to participatory principles, can be rigged to produce biases towards certain policy innovations like the privatization of water services (Goldin and Kibassa 2009).

Crafting institutions for learning or for realizing particular policy ideas?

Policy entrepreneurs operate within a particular institutional setting but may also try to change that setting. Bureaucratic entrepreneurs in particular often have numerous opportunities to change the design of decision-making processes. This raises questions such as how open or closed is the policy process? Is the policy process organized as blueprint planning or as a social learning process? In theory, bureaucratic change agents may not always direct change deliberately in one direction but instead purposefully craft institutions that offer opportunities for learning, for instance by stimulating a variety of problem definitions and the development of a variety of policy options.

Olsson and Galaz (2009), referring to Ostrom (2005), argue that unicentric, simple, large-scale governance units do not, and cannot, have the variety of response capabilities that polycentric, multi-level governance systems can have. Awareness of which institutional settings are more conducive than others to learning may help policy entrepreneurs create a “learning environment” that allows for variation and experimentation. From a normative point of view, we fully agree with the need for creating institutions that encourage variety and provide spaces for (social) learning. However, the case studies show a discrepancy between this normative ideal and the reality where entrepreneurs seem to be more interested in institutionalizing their new policy ideas or “way of knowing”, that is in discursive closure (a fixation of meaning), than in creating a learning environment. Take the various

examples of pilot projects, which sometimes have an experimental and testing element but more often are intended to sell a new approach to the public. Likewise, the existence of multiple venues does not seem to function primarily as an incentive for variety and learning; it is probably more realistic to conceive of venues as arenas where entrepreneurs try to win (parts of) the multi-level policy game. Put otherwise, the policy entrepreneurs that we have studied were more interested in getting *their* ideas accepted and institutionalized than in learning. To that end they tried to gain access to major decision-making forums, to manipulate forums, and to frame crises strategically, to build strategic alliances to pool resources, and they strategically used narratives to attract supporters. This arsenal of strategies shows that successful policy entrepreneurs have played a very political game to institutionalize their policy ideas. Since those in power can afford not to learn, a newly established policy monopoly often is just as stable as the one that was disrupted or replaced, thus ironically creating barriers to future change (Baumgartner and Jones 1991). However, if a newly established policy monopoly displays more characteristics of being sustainable than the disrupted one, we may well want it to be stable.

Although we are aware that our findings on the highly political character of entrepreneurial action should be explained partly by the specific conceptual lens (a policy science perspective) that we have used in our study of water policy transitions, they may be valuable additions to insights produced by studies of transitions that have used other theories or ‘lenses’, such as theories of social learning and adaptive management.

Strategies to block change

Most of the country analyses related the story of change agents and their strategies, yet some case studies present interesting insights into players with an interest in maintaining the status quo and how they can try to block change (Kibaroglu et al. 2009). Most of the strategies discussed above have also been used to block change and maintain the status quo. Those resisting change tried to disseminate their ideas, to build coalitions, and to control the various decision-making forums. Narrative strategies, too, found eager users in the no-change camps (Lebel et al. 2009).

As discussed above, defenders of the status quo or those trying to divert new policy can be particularly successful in the implementation stage. Narain (2009), Bhat and Mollinga (2009), and Goldin and Kibassa (2009) all refer to the work of Thomas and Grindle (1990) on policy implementation, which maintains that donor organizations have invested many resources in strengthening policy analysis and in developing models of “good governance” but have neglected implementation. Narain (2009) describes how the street-level bureaucracy of an irrigation department in India feared the loss of opportunity to extract illicit payments from farmers for releasing water. They either withdrew support for management turnover or tried to delay the rehabilitation of projects. Large and powerful farmers who benefited from the status quo, for example, threatened policy entrepreneurs using letters and blackmail. Key stakeholders in the South African mining industry also used an armory of strategies to block policy change. According to Turton (2009), they had learned how to outmaneuver government attempts to regulate the industry. Tactics included destroying evidence of liability and/or culpability, attacks on the credibility of scientists, and provision of inadequate budgets for public participation processes. The case studies seem to show that proponents of policy change typically do not employ underhanded strategies. Those vested in extant policy have recourse to actions made possible by the advantages of power and/or possession, such as bureaucratic delay and obstruction.

HOW INSTITUTIONAL CONTEXT MATTERS

Policy entrepreneurs around the world appear to use quite similar strategies of coalition-building, exploitation of problem or political windows, and venue manipulation and venue shopping. This does not mean that institutional differences are not relevant to water policy transitions. The case studies show that they do, in fact, affect the potential to achieve a policy transition and for a transition to endure. Different countries clearly offer individual or collective entrepreneurs different opportunities (opportunity structures) to achieve their goals (see for example Baumgartner et al. 2009). While in some countries advocates of change may feel frustrated as they encounter an institutional void and a lack of opportunity to articulate ideas, those advocating change in other countries may complain

about institutional complexity. Both an absence and an abundance of institutions are often said to constrain the ability of policy entrepreneurs to bring about a policy transition.

At the same time, these individual institutional contexts each offer a particular opportunity structure. Complex decision-making processes in which many different parties and levels of government are involved usually feature a wide range of venues where change agents may place their issues on the agenda or seek support for their ideas. As Richardson has argued elsewhere, alternative venues form an important resource for interest groups (Richardson 2000). Becker (2009), in his study on transitions in German flood management, also correlates multiple venues with policy entrepreneur opportunity. He argues that the German federal state structure, precisely because it offers a large number of venues for simultaneous discussion of similar issues, acts as fertile ground for the development of new policy approaches. As Lebel et al. (2009) in a similar vein conclude, the studies overall seem to show that an increase in institutional complexity and redundancy is not dysfunctional. It rather provides alternative platforms for deliberation and policy influence at multiple levels. More centralized and less democratic government systems, however, offer other opportunities. Once policy entrepreneurs have managed to gain access to and support from the central decision-makers, they may be quite effective in realizing policy change in such systems (see te Boekhorst et al. 2010 on China).

The state organization of some countries might receive criticism for various normative reasons, but in terms of change management, critiquing is far less important than knowing a particular system well and using strategies that fit within the institutional context. In some cases, however, institutions can be very constraining, thereby minimizing chances for entrepreneurial action. Turton (2009) argues that in most of South African history, there was no space for individual policy entrepreneurs. It took the end of the apartheid regime for possibilities to arise for individual policy entrepreneurs to make a difference in the management of mining water.

CONCLUSIONS AND POSSIBILITIES FOR TRANSITION MANAGEMENT

We provide Table 3 as a summary of the main conclusions of our case study research. The patterns of continuity and change in water management show that all transitions exhibit remnants of former regimes or discourses, and it is clear that a major policy change does not guarantee successful implementation (findings 1 and 2).

Some findings of the case studies strongly corroborate the policy science literature. Findings on characteristics of policy entrepreneurs (3), on the use of advocacy and brokerage strategies (6), and on the need to anticipate windows (9) are in alignment with Kingdon's multiple streams model (Kingdon 1995). Finding 9 supports the argument of Olsson et al. (2006) that systems need to be prepared for change. Baumgartner and Jones's (1991) concepts of venue manipulation and venue shopping have been very useful for understanding change agents' strategic behavior (finding 10); the same is true of their conclusion that newly institutionalized policies (new policy monopolies) can be just as stable as the ones replaced. Indeed, policy entrepreneurs usually try to institutionalize their world view, and as a result, set barriers in place to future change (finding 11).

Other insights, such as the importance of collective entrepreneurship (finding 4), the need for context-dependent balancing between top-down and bottom-up strategies (finding 5), the usefulness of network-building across different ways of knowing water (finding 7), and the possibilities for strategic use of narratives (finding 8), were derived from the case study material more inductively.

As mentioned above, there are similarities but also some notable differences between low-income, middle-income, and high-income countries when it comes to identifying policy entrepreneurs and their strategies. In low- and middle-income countries, donor organizations are important policy entrepreneurs. They have succeeded in changing governance paradigms almost overnight in many cases, but implementation following such change tells a different story (finding 2). The implementation of major policy change appears to be a challenge in all cases studied, which fits well with principal findings of other research on policy implementation (for example, Pressman and Wildawsky 1973; Thomas and Grindle 1990).

Our final finding pinpoints the need for policy entrepreneurs to adjust their strategies to the particular institutional context in which they are operating. Different institutional contexts produce not only different institutional constraints but also different opportunity structures. Change agents need to be able to recognize and exploit the opportunities and peculiarities of a particular institutional system (finding 12).

What are the implications of these findings for those who aim to direct change? The in-depth case studies on the roles and strategies of policy entrepreneurs have contributed to our knowledge about the complexity of change trajectories. With this knowledge, a policy entrepreneur may be able to turn a "trained eye" on newly developing change processes, to evaluate and interpret them, and to recognize opportunities for change and their characteristics. Examination of policy transitions must account for their intrinsically dynamic nature. "The experience of managing in complex adaptive systems is more similar to catching waves or looking for emergent corridors for action than pulling strings or working levers" (Westley 2002, p. 354). A simple list of "do's and don'ts" would not do justice to the case analyses. Nevertheless, we cannot resist the temptation to formulate some general recommendations for those who seek to direct policy change:

1. Develop a thorough knowledge of the characteristics and peculiarities of the relevant institutional system. This step is necessary to be able to recognize and characterize opportunities and to assess the likely effectiveness of specific change strategies.
2. Persevere and be willing to spend resources, especially time, to see a transition process through to implementation.
3. Attract supporters to the policy alternatives and build coalitions. Strike a balance between advocacy and brokerage strategies. Negotiation and compromise can be as important as communication of the new ideas.
4. Recognize the various ways of knowing water. Frame the problem and develop the narrative strategy around those that fit the institutional and social context.
5. Anticipate windows of opportunity, whether

Table 3. Findings on water policy transitions, policy entrepreneurs, and change strategies: lessons learned.

On patterns of change

- 1 New policy ideas (paradigms, discourses, or ways of knowing) do not replace the “old” ones, rather they are placed alongside them or are integrated with them.
- 2 After new policies have been adopted, those who have an interest in maintaining the status quo have ample opportunities to delay or frustrate policy implementation.

On policy entrepreneurs

- 3 Policy entrepreneurs can be found anywhere, but what they have in common is a good reputation within their respective communities, good networking skills, and perseverance.
- 4 Successful entrepreneurship often is collective entrepreneurship in which individuals play complementary roles.

On strategies (and institutions)

- 5 A combination of bottom-up and top-down strategies makes most transitions happen, and their relative importance depends largely on the particular institutional context or opportunity structure.
 - 6 Successful (individual or collective) entrepreneurs are able to balance advocacy and brokerage strategies.
 - 7 Successful policy entrepreneurs build networks across different ways of knowing water (different meanings).
 - 8 Successful policy entrepreneurs use narratives to frame issues strategically and thereby justify change and attract supporters.
 - 9 Successful policy entrepreneurs anticipate windows of opportunity by developing and testing attractive policy alternatives and demonstrating their feasibility.
 - 10 Successful policy entrepreneurs employ strategies of venue manipulation and venue-shopping, and/or create new venues to be able to insert new ideas into decision-making processes.
 - 11 Successful policy entrepreneurs manage to institutionalize new ideas (discourses, images, or ways of knowing), and in this way create barriers to future change.
 - 12 Successful policy entrepreneurs have a full and thorough knowledge of the institutional system they are working in and know how to use that system.
-

they are opened by shock events or by political changes. Be prepared to exploit these opportunities and to insert the new ideas into the political debate. Pilot projects are useful for demonstrating feasibility but should not exclude experimentation and testing.

6. Play a political game. Issues or disasters need to be framed strategically. Forums may require manipulation, and forum-shopping can be necessary in order to bypass change blockers.

RESEARCH AGENDA

We hope that additional effort will take the research past the limits of this case study research. A useful next step would be a systematic test of one or more hypotheses on the strategies used by policy entrepreneurs. All findings, as summarized in Table 3, can also be read as hypotheses that need further testing and refinement in a broader range of cases. A most different systems approach, as we have applied in this comparative case analysis, has proven useful in testing a causal relationship across

various contexts, and may be used in a similar vein for further testing of more specific causal relationships, such as between a specific change strategy (for example, the framing of policy windows) and policy change. A complementary approach would be a most similar systems approach that aims at explaining different outcomes (in our case, either major policy change or stability) within very similar systems (Anckar 2008).

We see three research topics as particularly fruitful: the nature of coalitions and the art of coalition-building, the interaction between agency and windows of opportunity, and change strategies in low- and middle-income countries. In terms of framing the research, a great deal of conceptual work needs to be done in the policy sciences.

In this article we have made an analytical distinction between three types of coalitions: those based on shared world views or meanings, those formed around shared policy preferences (strategic alliances), and those centered on resource dependencies. But how do policy entrepreneurs choose which of these types to build, and when, and by using which strategies? We have seen, for example, how policy entrepreneurs may try to bridge and relate multiple ways of knowing water (meanings), which is an example of policy brokering. However, they may also use narrative strategies for advocacy and to attract supporters. How do entrepreneurs balance advocacy and brokerage strategies? What makes them select a particular strategy or a combination of strategies? These kinds of questions go beyond an explanatory typology of strategies related to policy transition and could further guide the work of policy entrepreneurs.

Policy entrepreneurs need opportunities in the form of problem and political windows to get their new policy ideas and plans accepted and realized. We have learned that both anticipating windows and the framing or “painting” of windows can be effective strategies. The cases show, however, that usually it is a combination or a series of windows that produces a real opening for change. More research is needed on how policy entrepreneurs exploit windows of opportunity that open simultaneously or successively.

One of the striking observations in the case studies is the failure of implementation in most water policy transitions in low- and middle-income countries.

Donor agencies, such as the World Bank, face huge difficulties in implementing new governance models, such as the concept of water user associations. The burning question, then, is whether more practical alternatives can be developed. Which policies fit better with the institutional characteristics of these societies? Would it be more fruitful to build on existing institutional capacity rather than assuming the need for a new institution to take on the task of implementation? Would a leave-alone strategy be effective? Case-by-case responses to such questions might lead to more successful implementation.

Confusion and overlap are rife in regard to concepts in the policy science literature. In our research we have grouped concepts that show considerable overlap, such as the concepts of frames, narratives, and ways of knowing. This rough grouping of theories and concepts works for our analysis but clearly entails an interesting theoretical research agenda. How do these concepts relate to each other, how exactly do they differ, and when do these differences prove useful? This kind of conceptual research would help to develop a theory on (the management of) water policy transitions.

We very much hope that the case analyses, the findings, and research agenda will stimulate others to further investigate the strategies of policy entrepreneurs in realizing water policy transitions. In this way we also hope to be of some help to those engaged in bringing about improvements that are so urgently needed globally in fresh water management.

Responses to this article can be read online at:
<http://www.ecologyandsociety.org/vol15/iss2/art21/responses/>

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LITERATURE CITED

- Anckar, C.** 2008. On the applicability of the most similar systems design and the most different systems design in comparative research. *International Journal of Social Research Methodology* 11:389–401.
- Baumgartner, F. R., J. M. Berry, M. Hojnacki, D. C. Kimball, and B. L. Leech.** 2009. *Lobbying and policy change. Who wins, who loses, and why.* The University of Chicago Press, Chicago, Illinois, USA.
- Baumgartner, F. R., and B. D. Jones.** 1991. Agenda dynamics and policy subsystems. *Journal of Politics* 53:1044–1074.
- Becker, G.** 2009. Germany: transitions in flood management in the Rhine basin. Pages 325–348 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Bhat, A., and P. P. Mollinga.** 2009. Transitions in Indonesian water policy: policy windows through crisis, response through implementation. Pages 158–174 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Birkland, T. A.** 1997. *After disaster: agenda setting, public policy, and focusing events.* Georgetown University Press, Washington, D.C., USA.
- Boin, A., P. 't Hart, and A. McConnell.** 2009. Crisis exploitation: political and policy impacts of framing contests. *Journal of European Public Policy* 16:81–106.
- Font, N., and J. Subirats.** 2010. Water management in Spain: the role of policy entrepreneurs in shaping change. *Ecology and Society* 15(2): 25. [online] URL: <http://www.ecologyandsociety.org/vol15/iss2/art25/>.
- Goldin, J., and D. Kibassa.** 2009. Past, present and future landscapes of water policy in Tanzania. Pages 215–233 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Gupta, J.** 2009. Driving forces in global fresh water governance. Pages 37–57 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Huitema, D., and S. Meijerink,** editors. 2009a. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Huitema, D., and S. Meijerink.** 2009b. Policy dynamics in Dutch water management: analyzing the contribution of policy entrepreneurs to policy change. Pages 349–368 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Huitema, D., and S. Meijerink.** 2010. Realizing water transitions. the role of policy entrepreneurs in water policy change. *Ecology and Society* 15(2): 26. [online] URL: <http://www.ecologyandsociety.org/vol15/iss2/art26/>.
- Hughes, S., and J. McKay.** 2009. The contribution of actors to achieving sustainability in Australia through water policy transitions. Pages 175–192 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe.* Edward Elgar Publishing, Cheltenham, UK.
- Ingram, H., and R. Lejano.** 2009. Transitions: transcending multiple ways of knowing water resources in the United States. Pages 61–78 in D. Huitema and S. Meijerink, editors. *Water policy*

entrepreneurs: a research companion to water transitions around the globe. Edward Elgar Publishing, Cheltenham, UK.

Kibaroglu, A., A. Baskan, and S. Alp. 2009. Neo-Liberal transitions in hydropower and irrigation water management in Turkey: main actors and opposition groups. Pages 287–303 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Kingdon, J. W. 1995. *Agendas, alternatives and public policies*. Second edition. Harper Collins, New York, New York, USA.

Lebel, L., P. Garden, N. Subsin, and S. Na Nan. 2009. Averted crises, contested transitions: water management in the Upper Ping river basin, northern Thailand. Pages 137–157 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Meijerink, S. 2005. Understanding policy stability and change: the interplay of advocacy coalitions and epistemic communities, windows of opportunity, and Dutch coastal flooding policy 1945–2003. *Journal of European Public Policy* 12:1060–1077.

Narain, V. 2009. Where does policy change come from? And where does it end up? Establishing water user associations in large-scale canal irrigation systems in India. Pages 120–136 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Olsson, P., and V. Galaz. 2009. Transitions to adaptive approaches to water management and governance in Sweden. Pages 304–324 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Olsson, P., L. H. Gunderson, S. R. Carpenter, P. Ryan, L. Lebel, C. Folke, and C. S. Holling. 2006. Shooting the rapids. Navigating transitions to adaptive governance of social-ecological systems. *Ecology and Society* 11 (1):18 [online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art18/>.

Ostrom, E. 2005. *Understanding institutional diversity*. Princeton University Press, Princeton, New Jersey, USA.

Partzsch, L. 2009. European Union water policy: to transition or not to transition? Coalitions as key. Pages 237–249 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Pierson, P. 2000. Increasing returns, path dependence, and the study of politics. *American Political Science Review* 94:251–267.

Pressman, J. L., and A. Wildawsky. 1973. *Implementation. How great expectations in Washington are dashed in Oakland; or why it's amazing that federal programs work at all, this being a saga of the economic development administration as told by two sympathetic observers who seek to build morals on a foundation of ruined hopes*. University of California Press, Berkeley, California, USA.

Richardson, J. 2000. Government, interest groups and policy change. *Political Studies* 48:1006–1025.

Sabatier, P. A. 1993. Policy change over a decade or more. Pages 13–39 in P. A. Sabatier and H. C. Jenkins-Smith, editors. *Policy change and learning, an advocacy coalition approach*. Westview Press, Boulder, Colorado, USA.

te Boekhorst, D. G. J., T. J. M. Smits, X. Yu, L. Li, G. Lei, and C. Zhang. 2010. Implementing integrated river basin management in China. *Ecology and Society* 15(2): 23. [online] URL: <http://www.ecologyandsociety.org/vol15/iss2/art23/>.

Thomas, J. W., and M. S. Grindle. 1990. After the decision: implementing policy reforms in developing countries. *World Development* 18:1163–1181.

Turton, A. R. 2009. South African water and mining policy: a study of strategies for transition management. Pages 195–214 in D. Huitema and S. Meijerink, editors. *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Werners, S. E., P. Matczak, and Z. Flachner. 2010. Individuals matter: exploring strategies of individuals to change the water policy for the Tisza

River in Hungary. *Ecology and Society* **15**(2): 24. [online] URL: <http://www.ecologyandsociety.org/vol15/iss2/art24/>.

Westley, F. 2002. Adaptive management on the front lines. Pages 333–360 in L. H. Gunderson and C. S. Holling, editors. *Panarchy. Understanding transformations in human and natural systems*. Island Press, Washington, D.C., USA.

Wilder, M. 2010. Political and economic apertures and the shifting state-citizen relationship: reforming Mexico's national water policy. *Ecology and Society* **15**(2): 22. [online] URL: <http://www.ecologyandsociety.org/vol15/iss2/art22/>.