

**COOPERATION ACROSS BOUNDARIES: THE ROLE OF POLITICAL  
ENTREPRENEURS IN ENVIRONMENTAL COLLABORATION**

Michael L. Schoon<sup>a,1\*</sup> and Abigail M. York<sup>a</sup>

<sup>a</sup> Center for the Study of Institutional Diversity, Arizona State University, Tempe, AZ,  
USA

Forthcoming in the Journal of Natural Resource Policy Research

---

\* Corresponding author. Email: michael.schoon@asu.edu

## **Abstract**

This paper links disparate scholarship in cross-border environmental institutions from local and global policymaking literature. We explore the ability of political entrepreneurs to broker deals across borders utilizing game theory as a metaphor for the strategic agency of the policymaking entrepreneurs. Our intent is to understand why collaboration occurs across jurisdictional boundaries in some situations and not in others and when cross-border governance works. Based on the literature, we propose and examine the explanatory power of three conditions for successful cross-border environmental negotiations: i) a skilled entrepreneur, ii) costs and benefits that are perceived as equitable, and iii) veto players' preference points (the desired end goals of the governments that the entrepreneurs' represent) that are close. We use two cases to demonstrate that policy change literature can be integrated with game theoretic literature to understand game switching by political entrepreneurs in the pursuit of cross-border collaborative governance.

**Keywords:** cross-border, cooperation, collaboration, policy entrepreneurs, transboundary conservation

Cross-border environmental dilemmas occur at all ecological scales and affect governance at every level from the local to the global. Numerous scholars explore the challenge of global environmental governance and the role of international institutions, as well as the use of game theoretic approaches to understand international diplomacy issues such as climate change and preservation of biodiversity (Barrett 2006, Holzinger 2001). A few governance scholars use game theory to understand intergovernmental cooperation at municipal levels (Steinacker 2004), although this literature typically focuses on general public service provision issues and not specifically those related to natural resources. The theoretical literature on cross-border environmental agreements ranging from local to international has not been sufficiently integrated reflecting a greater problem of lack of generalizable scholarship on governance across multiple scales (Young 2002). We bring this disparate literature together to further our understanding of multi-level governance of environmental dilemmas by learning from findings at multiple levels lacking a central governing authority – the very feature that makes cross-border governance so difficult. In particular, we focus on the ability of political entrepreneurs to navigate the complex cross-border negotiations through game switching – changing the perceptions of the situation that political actors confront, what social scientists often refer to as re-framing. Ultimately, our goal is to understand the conditions in which cross-border governance arrangements emerge and endure.

Policymaking in environmental arenas often occurs across borders requiring navigation amongst multiple political jurisdictions and complicating the role of the political entrepreneur. We seek to understand the ability of political entrepreneurs to broker deals across borders by incorporating a game theoretic approach for understanding

the structure, the opportunities, and the obstacles for successful cross-border policymaking. However, this paper does not attempt to advance game theoretic designs. Rather, the central argument of this paper unites the strategic agency of a political entrepreneur with basic game theoretic approaches to bargaining to understand how political entrepreneurs reframe and shift games between jurisdictions to foster cross-border governance arrangements. This union pushes forward the environmental governance literature, which is fragmented by scale and level and proposes three criteria for successful cross-border governance (Young *et al.* 2002). Building on Young's hypotheses on institutional bargaining in the creation of international regimes (Young 1994), we identify three conditions for successful cross-border negotiation via game switching applicable at multiple scales of governance based on the political entrepreneurship, bargaining, and international relations literatures:

- 1) Political entrepreneur with expertise and political capital across borders
- 2) Costs and benefits distributed in an equitable, fair, or just manner through issue linkages (such as coupling a trade agreement with biodiversity conservation negotiations), side payments, or reframing and switching the game
- 3) Veto players' preference points (government actors' negotiation limits) that are close enough to allow agreement

Using two cases on biodiversity – one international, a transfrontier park in southern Africa, and the second sub-national, protection of wild reindeer between local jurisdictions in Norway – we highlight these three conditions for successful cross-border environmental negotiations in real world examples. Because environmental dilemmas

occur in a range of settings and vary significantly by type of good, scale, and context, scholars must examine how the particular context of the dilemma relates to the strategies employed and the game structure perceived and confronted by political entrepreneurs in the governance process. We first use game theory metaphorically, meaning we do not model specific actor behavior, nor do agents explicitly think in game theoretic terms when in the negotiating process, to frame cross-border environmental dilemmas. Then we show how these games become “nested” within a multiple-stage, cross-border negotiation process. Next, the paper explores the role of a political entrepreneur in switching the perception of the game being played to facilitate cross-border cooperation in the negotiation process. Two case studies are then introduced to provide examples at international and sub-national scales. We conclude with a discussion of the cases vis-a-vis these theoretical arguments emphasizing our contribution toward integration of governance scholarship across multiple scales.

## **1. Games in Cross-Border Environmental Negotiations**

Much of the game theoretic literature on cross-border governance, particularly on international (Rapoport 1964) and municipal negotiation (Steinacker 2004), argues that governments play a prisoner’s dilemma (PD) game in negotiations with other governments whereby each government faces greater costs for cooperation than for acting selfishly and defecting or cheating from cooperative outcomes. Unfortunately this provides a sub-optimal solution for both parties in aggregate. For instance, global climate change negotiations are often described as a PD game with the benefits of free-riding on the work of others and acting selfishly rather than cooperating. However, while environmental dilemmas often are not zero-sum games, in the absence of negotiated

cross-border governance, an inability to exclude or effectively monitor people can create a race to the bottom of the resource.

Cross-border negotiation, however, does not inherently create PD games (Fearon 1998); many environmental cross-border dilemmas result in games of coordination, often denoted as assurance or chicken games (defined below) depending on the nature of the good, scale, locale, and governance arrangements (Holzinger 2001). In Holzinger's (2001) formal analysis of international environmental games, she contrasts the PD game of global warming with these coordination games. For instance, locally unwanted land uses (LULUs) may be more appropriately viewed as a chicken game. In a chicken game, mutual cooperation results in the optimal group outcome (the greater social benefit), similar to the PD scenario, but, unlike the PD game, cooperation while the other defects still beats mutual defection. In this example, both jurisdictions want a LULU, such as a hazard waste treatment plant, to be sited, but neither jurisdiction wants the LULU within their boundaries. However, even without help from the second party, it may still be worthwhile to take action individually to develop a LULU. By contrast, biodiversity protection has been characterized as an assurance game with both jurisdictions preferring protections, but each preferring an alternative strategy (Holzinger 2001, Snidal 1991). Because of opportunity for communication, jurisdictions often solve environmental dilemmas with all the underlying game structures, unless there is a history of conflict between them. As these simple games demonstrate, political actors' perception of the game structure and characteristics of the environmental goods shape the opportunities and constraints for collaboration and successful negotiation.

These basic games form a theoretical foundation for examining wide-ranging environmental dilemmas, but simple one-shot games cannot explain the patterns of cooperation and coordination that we observe in the world. Rather, a more complicated multiple-stage negotiation is appropriate for understanding cross-border negotiations. The simple, repeated games that we have discussed thus far are embedded within this structure.

## **2. Playing Games in a Multiple Stage, Multiple Level Negotiation**

Rather than viewing jurisdictions as unitary actors, a common assumption in policy analysis where governing institutions are viewed as monolithic entities, cross-border negotiations occur between teams of individuals representing two or more jurisdictions. These delegates negotiate within the confines of strategies or guidelines determined by their home government, creating a series of steps involved in cross-border negotiations. Putnam (1988) has described this as a two-level game where diplomats negotiate within the international arena and then must get an agreement ratified by their domestic government. This has been conceptualized as preference points with thresholds for veto players in both countries (Clark and Meunier 2000). In common parlance, negotiators have sets of desired goals and non-negotiable points from their home governments from which to negotiate, negotiating limits. In studying the role of veto players (the jurisdictional government actors that may reject negotiated arrangements), authors often refer to the “Schelling conjecture” that if the domestic demands on one negotiator are higher than the other parties in the negotiation, these limits enable the constrained negotiator to extract preferential agreements (Tarer 2001, Schelling 1963). While typically applied to international scenarios, we see Putnam’s two-level game and

Schelling's conjecture as applicable at many governance levels. Just as others have extended Putnam's game to non-state actors (Skodvin and Andresen 2003), this paper extends it to multi-level games across a range of scales from local to international.

In many arenas there are several veto players, for instance at the national level within the United States there are two parties, an executive, Congress and multiple interest groups that may have preferences about the agreements. For example in the domestic arena, Congress and the President may hold different policy preferences creating constraints on negotiations that allow the US to push an agreement toward a preferred position, as the negotiations around the Kyoto Protocol showed (Mayer 1992). Similarly within a local government context, multiple interest groups, such as homeowners, businesses, and environmental groups, often pressure the city council. Intra-jurisdictional games complicate the study of a simple two player inter-jurisdictional game that Putnam noted in the international context, but we argue that this occurs in many sub-national negotiations too.

In a multi-stage negotiation, information, debate, and decision-making alternates between inter- and intra-jurisdictional negotiations before reaching agreement. Even after basic agreements arise, the shuttling between inter- and intra-jurisdictional discussions continues regarding ratification, monitoring, and enforcement of the agreement. Due to the challenges throughout a multiple-stage negotiation, each aspect of the process involves strategy. Union of game theory and empirical cases aids in our understanding of the opportunities and challenges of coordination and cooperation, but, by themselves, they do not offer much in light of how political entrepreneurs are able to successfully broker deals in the real world. It is within this multi-stage game that we see

delegates, the policy entrepreneurs, engaging in game switching, facilitating greater cooperation and improving outcomes for themselves and their partners.

### **3. Political Entrepreneurs and Game Switching**

Political or policy entrepreneurs play an important role in all stages of the cross-border negotiation process. Non-governmental political entrepreneurs may induce governments to sit down even if the governments do not believe the issue is salient or the resolution is costly (Tiberghien and Schreurs 2007). In some cases players in a game, whether representatives from a local, regional, or national government, view their participation in a negotiation through the lenses of prisoner's caught in the classic dilemma. Communication often plays a role in creating opportunities for cooperation and escaping from the Prisoner's Dilemma, although much of the research has focused on signaling within an iterated PD game structure (Majeski and Fricks 1995). However, experienced and skillful entrepreneurs may succeed in changing the structure of the game in a different way – by shifting the nature of debate or the participants' perspectives from that of a competing PD to a more cooperative “assurance” type of game. By shifting from a Prisoner's Dilemma to a cooperative game, political entrepreneurs can re-activate stalled negotiations and accomplish their personal or governmental objectives because these games are often easier to find a mutual agreed resolution. Within international trade negotiations there are cases of political entrepreneurs effectively switching games, from value-claiming to value-creating approaches. Elms (2006) notes that within trade negotiations there are few “pure value-creating” games as at least one interest group, will see a reduction in welfare. Similarly within environmental dilemmas typically some group will face higher costs, but this does not mean that the dilemmas are all inherently

PD games. Ultimately, our point here is that often various scholars and negotiators view similar situations quite differently. Differences that emerge from slightly different perspectives provide opportunities for knowledgeable local champions, our first condition of successful cross-border negotiations, to shape perceptions of negotiations from zero-sum games to “win-win” solutions and re-frame the situation by fundamentally altering the games.

Regarding the second condition of successful cross-border negotiations – the potential for a fair deal – we see equity and fairness as underpinning the legitimacy of institutional arrangements (Bernstein 2004). As enforcement and compliance in cross-border arrangements are often through self-policing, negotiations generally require agreement in principle to make cooperation work. Diplomats or delegates often come to the table with completely different solutions to the issue. The perception of fairness in the proposal is critical to the success of an agreement with the notable exception being coercive negotiations where the autonomy of one of the actors is greatly compromised.

Game linkage shifts the game from competitive to cooperative when jurisdictions have heterogeneous preferences or heterogeneous resources, both environmental and economic. In the environmental realm, there is great variance of preferences for goods such as biodiversity and reduction of carbon emissions. At the international level there has been great debate, often along the north-south divide, where southern countries argue that they should be compensated through side payments if they preserve their biodiversity or maintain carbon sinks. Because of this heterogeneity, many jurisdictions link environmental negotiations to other issues, especially within the international arena, such as the linkages between environment and trade policy. One interesting example was the

linkage between acid-rain, SO<sub>2</sub> emissions, and Canadian support for the invasion of Iraq in 1990, where environmental agreements were explicitly linked to military cooperation (Hauer and Runge 1999). Economic side payments, such as direct aid or forgiveness of debt, are increasingly used as a means to compensate nations that are less developed in order to reduce harmful effects of the development process. Interestingly, Conka and Dabelko (2002) argue that environmental issues, unlike many other types of international dilemmas, create opportunities for environmental peacemaking. One potential outcome of increased environmental agreements could be increases in trust that allow negotiation of other concerns such as trade or security, which may be too contentious without a history of cooperation.

Within the sub-national context, localities exhibit differences in preference regarding urbanization, maintenance of scenic riparian areas, storm water and sewage treatment and water usage, among others. Sometimes these diverse preferences stem from different lifestyles and livelihoods, such as the rural/urban divide on many environmental concerns. On occasion governments at the state or national level have stepped in to handle disputes at the sub-national level that stem from heterogeneous preferences; however, sub-national jurisdictions also purposely avoid appeals to broader authority levels for a number of reasons – the desire to resolve dilemmas locally, concerns about the loss of decision-making power, unacceptable additional conditions placed on the locality, the lack of place-based knowledge at broader governance levels, and others. In these cases, savvy delegates/political entrepreneurs instead reframe the game in a cooperative light. Within the US context, many of these local and regional jurisdictions cooperate on issues ranging from water provision to emergency services (McGinnis

1999). Sub-national governments link games that are in disparate areas such as the natural cross-border game linkage between economic development and the environment, which leads to increases in environmental amenities that fuel economic development.

The third condition concerning the removal of irreconcilable differences, we argue is an obstacle; however, savvy political entrepreneurs in cross-border negotiations will use techniques such as game linkage to bring in unrelated issues, which are salient to each jurisdiction to induce both governments to come to the table. By bringing issues together and reframing debates, political entrepreneurs may sometimes generate salience, as our cases demonstrate. Patience can be important when there are few opportunities for game linkage or game switching; then like Kingdon's (1995) domestic entrepreneur, the cross-border entrepreneur may have to wait for a more opportune time, their "window of opportunity." Likewise, if there are many policy alternatives, but few distributional consequences, similar to Garrett and Weingast's (1993) argument about domestic politics, then the ability of a political entrepreneur to set the agenda is greater increasing the potential for the creation of a window of opportunity.

The next section will provide cases at the international and sub-national level that demonstrate how political entrepreneurs are sometimes able to draw on these conditions and shift the context of negotiations from a competition game to a cooperation game. Through game switching, political entrepreneurs create space for negotiating agreements across borders. We note that a similar governance process occurs at both the local and international scale and argue that the calculus of decision-making shares many common features regardless of scale.

#### **4. Evidence of Game Switching**

#### ***4.1 Transfrontier Conservation in Southern Africa – A Case of International Negotiation***

Parks and protected areas in Africa have often been sources of conflict between national governments and local communities (Neumann 1998). Often protected areas were viewed as colonial land grabs at the expense of rural populations attempting to earn a livelihood through natural resource usage (Adams and McShane 1992). Priority often seemed to go to wildlife preservation rather than human development. This changed to some extent in southern Africa with the liberation of Zimbabwe in 1980, the cessation of civil war in Mozambique in 1992, and the end of apartheid South Africa in 1994; and the new governments in southern Africa had an opportunity to reconsider conservation and development goals. Populist pressures and a commitment to improving rural economic conditions often favored development at the expense of biodiversity conservation. Yet despite the new political environment, talks began to surface about the creation of several transfrontier conservation areas (TFCAs), protected areas that straddle international frontiers, throughout southern Africa (Sandwith *et al.* 2001).

Initial discussions of transfrontier conservation, led by South Africa's park service, SANParks, and a powerful regional NGO, the Peace Parks Foundation, focused on the creation of transfrontier parks, which are protected areas managed primarily for biodiversity conservation. The flagship project in the region is the Great Limpopo Transfrontier Park between Mozambique, South Africa, and Zimbabwe. As expected, the predominant position of biodiversity in these plans, at the expense of rural development, was initially viewed quite negatively by the national governments of Mozambique and Zimbabwe as well as by local community representatives in each country (Ramutsindela

2007). At this stage, TFCAs looked very much like neo-colonial land grabs, and South Africa's support for the movement was viewed by many as the actions of a bullying regional hegemon, in direct contradiction to the second condition for success. In many ways, the prospect of adding any substantive amount of land to protected areas for biodiversity purposes appeared bleak. Yet several feasibility studies emerged from World Bank projects in Mozambique during this timeframe that provided optimism for transfrontier conservation programs (Booth 1992).

The World Bank projects were led by a long-time resident in the region, an experienced political entrepreneur, the first condition for successful game-switching in cross-border negotiations. Rather than viewing TFCAs from a purely conservation perspective, the project leader saw them as an opportunity to stimulate a rural economy through eco-tourism over and above any biodiversity benefits. The project, under World Bank sponsorship, viewed poverty alleviation as a primary goal of the conservation areas (Munthali 2007). Working directly with the Mozambican government, the project developed plans for a multiple-use transfrontier conservation area, where conservation and sustainable resource utilization would both occur within the protected area<sup>2</sup>. Project officials went back and forth in negotiations between the Mozambican national government and representatives from its international partners. Through several iterations between domestic and international teams in the multiple-stage negotiations, World Bank representatives reframed the situation from a zero-sum game fought between conservationists and rural development groups and pushed the end goals or preference points of both parties closer together (condition three) for a “win-win” solution where both rural communities and wildlife would benefit, linking conservation and development

---

<sup>2</sup> From interviews with regional World Bank staff members, 15 June 2007.

agendas in a fair and equitable manner (condition two), and opening a window of opportunity for cross-border negotiation.

Switching the game from a zero-sum PD to an assurance game that viewed the conservation projects as the best means of stimulating rural economies did more than align the interests of conservationists and rural groups on both sides of the border. It generated government support for the project and encouraged a wide variety of development agencies to get involved. In this manner, national governments, international development agencies, and regional NGOs began to work together toward a common goal of transfrontier conservation<sup>3</sup>. To summarize, a well-known and connected political entrepreneur was able to switch the game to one that was perceived as being about more than just conservation and, hence, more fair. By linking economic development with conservation, a skilled entrepreneur was able to get the goals of former antagonists to coalesce through the policy process.

#### ***4.2 Wild Reindeer Protection in Norway – A Case of Sub-national Negotiation***

In Norway development of infrastructure has created barriers to traditional migration routes of wild reindeer (Nellemann *et al.* 2003). Bråtå (2006) provides a case from the Norwegian Rondane Region where a wild reindeer herd was threatened by development. The Rondane National Park, in the region, was the first national park established in Norway; there is no motor access to the park, but there are trails throughout the park creating extensive off-road tracks, particularly from snowmobiles, and bringing reindeer and humans into close contact. Development, particularly tourism oriented development, near the park had detrimental effects on reindeer habitat just outside the

---

<sup>3</sup> Since the time of this study, the game has switched from a TFCA to a Transfrontier Park and discussions are again resurfacing on the greater TFCA area.

park boundaries. Because of outside threats to the herd within the Rondane, the national government's Ministry of the Environment recommended a national parks extension, which was fiercely opposed by the local communities (Bråtå 1998). Local resistance had a strong property rights based perspective from landowners whose families had farmed the region for hundreds of years. The environmental managers' focus during this standoff was largely oriented toward protection of reindeer and ecosystem functions (Kaltenborn *et al.* 1999), which was in conflict with the goals of the local communities in balancing environmental goals, economic needs, and property rights. Sevattal (2006) argues that the dichotomy between local and national interests throughout Norway largely centers on urban ignorance of rural economic development issues and agricultural traditions. For years, there was no movement towards an agreement.

A controversial ski resort development was proposed that affected migration patterns of the reindeer, which spurred a local mayor, a former mountain ranger aware of the reindeer situation, to contact other mayors and county officials (Bråtå 2006). He attempted to bring together the local interests to come up with an agreeable intergovernmental plan that crossed local borders adjacent to the national park and improved protection of the reindeer. Using his leadership in the local, dominant political party, the mayor gathered support from other politicians for conservation. The mayor's experience and skill represents the first condition; he had the political capital enabling game switching and creation of a successful cross-border agreement.

A partial county plan focused on balancing development and protection of the habitat, which controlled development instead of controversial proposed moratorium on development or national, instead of local, control of all planning. Local governments

could incorporate aspects of the plan in their planning and the county could also use it to object to local decisions that threatened sensitive areas. Because of the local control and balance of development and conservation, the partial county plan satisfied our second condition – it was perceived as an equitable deal with a balance of costs and benefits.

Conflict between development and environmental protection created this controversy, a relatively common problem in Norwegian sub-national arenas (Falleth 2006), although similar to development and conservation conflicts in the United States (Yaffee *et al.* 1996). In the Rondane case, as in many others, the local leader shifted the game from one of competition over conflicting goals to one of cooperation enabled by his credibility within the community which fulfills the first condition, as an experienced political entrepreneur. The mayor capitalized on his party leadership in order to motivate neighboring community leaders to act; this motivation could be due to personal trust with the mayor leading the cooperative effort or perhaps self-interest in gaining favors with a party leader. We might consider this a game linkage or side payment, i.e. “if you support this I will support you within the party.” Additionally, we might also consider that the local mayor supporting a balanced plan was able to move the framing of the game towards one of cooperation incorporating development and conservation; thus benefits and costs were perceived as more equitable particularly at multiple scales, the local versus the national. This case highlights the role of the political entrepreneur in establishing cross-border agreements when there is conflict or opposition within the delegates’ jurisdiction. Finally, by creating a game that was perceived as win-win, the political entrepreneur removed the perception of irreconcilable differences.

## **5. Conclusion**

We bring together game theoretic approaches from both international and subnational studies to understand multiple-stage environmental cross-border negotiations. The focus on the agency of the political entrepreneur provides a lens to understand why negotiations remain stagnant for decades, but may change quickly when a player reframes the game in a new way, often switching perceptions and problem-framing to a new type of game. In this paper, we emphasized the role of game switching whereby entrepreneurs capitalize on heterogeneity of preferences or resources by including side-payments, tying issues together, or reframing the game to be one of value-creation through cooperation rather than value-destroying competition.

However, successful cross-border negotiation is only the start of solving environmental dilemmas – within democratic jurisdictions the democratic process creates inflexibility in the ability to change policy quickly, which leads to greater fulfillment of cross-border agreements (Leeds 1999). To some extent we expect these governments to follow through with their commitments because of the public discourse and potential political backlash. In the international relations context, stable democracies make more credible commitments; in the sub-national context, a similar logic may be used whereby jurisdictions with open systems and public engagement make more credible commitments than closed systems. We are unaware of studies that have addressed this at a sub-national level, either theoretically or empirically, but it is a fruitful area for future research. Our future work will examine the role of political entrepreneurs in implementation and monitoring of cross-border agreements at multiple-levels.

Another important contribution of our paper is our effort to understand cross-border governance at multiple levels and scales, encompassing both subnational and

global governance issues. We argue that the underlying opportunities and constraints generated by natural resource management dilemmas at the international and local levels are similar, although recognize that within the subnational level a national government may coordinate solutions in the absence of successful cross-border negotiations – an option unavailable in the international context. We unite simple game theoretic models with political entrepreneurship literature to understand the strategic behavior of individuals, municipalities, and nation-states in cross-border environmental negotiations. In the fragmented world of governance scholarship, all too often we seek to find differences instead of looking for generalizability in the policymaking process, yet we concede that our attempt to generate generalizable conditions does not fully capture the particulars in any one case (Cox 2008).

Our cases focus on biodiversity protection and highlight the role of the three conditions – a knowledgeable local champion, the potential for a fair deal, and the removal of irreconcilable differences – for successful cross-border negotiation, illustrating the role of the political entrepreneur in moving beyond inter-jurisdictional conflict and toward cooperative outcomes. The cases also illustrate the role of reframing the debate surrounding environmental dilemmas. In the Rondane case, when reindeer protection was framed as loss of property there was widespread local opposition, but when a local political entrepreneur reframed the game as one of balance between nature conservation and development he successfully leveraged his ties to gain support across the region. In the international case, the experienced political entrepreneur, a local representative from the World Bank, was able to reframe the game from one of development or conservation to one linking development through conservation. By

positioning protected area development in this way, the World Bank gained support from both conservationists and the development community. In future work, we will investigate the significance of the three conditions for successful cross-border negotiation via game switching with a much larger sample of cross-border biodiversity agreements.

The purpose of this paper was to link disparate scholarship in an attempt to learn from the challenges and opportunities of environmental cross-border governance and policymaking at multiple scales and increase understanding of the collaborative governance of environmental dilemmas. Game theoretic and policy change concepts help us understand actors' behaviors in local and international cases. We demonstrated that policy change literature can be integrated with game theoretic literature in order to understand game switching in the cross-border environmental context. Environmental dilemmas present a unique opportunity and challenge for cross-border negotiation with some of the common dilemmas inherent in cross-border governance regardless of scale. Because environmental dilemmas occur in a range of settings and vary significantly by type of good, scale, and context, scholars must examine how the particular context of the dilemma relates to the strategies employed and the game structure perceived and confronted by political entrepreneurs in the governance process.

### **Acknowledgements**

The authors would like to thank the Center for the Study of Institutional Diversity and the School of Human Evolution and Social Change at Arizona State University for their funding and support in this research. Dr. Schoon would like to thank the National Science Foundation (Award Number 0620381) for their support. Both authors thank

colleagues at Indiana University's Workshop in Political Theory and Policy Analysis for their comments and critiques of previous versions.

## References

- Adams, J. and McShane, T., 1992. *The Myth of Wild Africa: Conservation without Illusion*. Berkeley, CA: University of California Press.
- Agrawala, S. and Andresen, S., 1999. Indispensibility and Indefensibility? The United States in the Climate Treaty Negotiations. *Global Governance*, 5 (4), 457-82.
- Barrett, S., 2006., *Environment and Statecraft: The Strategy of Environmental Treaty-making*. Cambridge: Oxford University Press.
- Bernstein, S., 2004. Legitimacy in Global Environmental Governance. *Journal of International Law and International Relations*, 1 (1-2), 139-168.
- Booth, V., 1992. *Pre-Feasibility Study for the Limpopo National Park and Great Limpopo Transfrontier Park*. Maputo, Mozambique: World Bank-Global Environment Facility.
- Bråtå, H., 1998. The partial county plan for the Rondane region, an evaluation. "Crossing Boundaries," the Seventh Annual Conference of the International Association for the Study of Common Property, Vancouver, British Columbia, Canada.
- Bråtå, H., 2006. The Rondane region, Norway: Common pool resource management through statutory planning. In: Y. Rydin and E. Falleth, eds. *Networks and institutions in natural resource management*. Northampton, MA: Edward Elgar, 98-110.
- Büscher, B. and Whande, W., 2001. Whims of the Socio-Political Winds of Time? Contestations in Biodiversity Conservation and Protected Areas Management. *Conservation and Society* 5 (1): 22-43.

Clark, W., Duchesne, E., and Meunier, S., 2000. Domestic and international asymmetries in United States–European union trade negotiations. *International Negotiation*, 5(1), 69-95.

Cox, M., 2008. Balancing Accuracy and Meaning in Common-Pool Resource Theory. *Ecology & Society*, 13(2), 44.

Elms, D., 2006. How bargaining alters outcomes: Bilateral trade negotiations and bargaining strategies. *International Negotiation*, 11(3), 399-429.

Falleth, E., 2006. Setesdale vesthei-ryfylkeheiane, norway: Local co-management in a protected area. In: Y. Rydin and E. Falleth eds. *Networks and institutions in natural resource management* . Cheltenham, UK: Edward Elgar.

Fearon, J., 1998. Domestic Politics, Foreign Policy, and Theories of International Relations. *Annual Review of Political Science*, 1(1), 289-313.

Garrett, G. and Weingast, B., 1993. Interests, Ideas, and Institutions: Constructing the European Community's Internal market. In: J. Goldstein and R. Keohane eds. *Ideas and Foreign Policy*. Ithaca, N.Y.: Cornell University Press.

Güth, W., 1991. Game theory's basic question: Who is a player?: Examples, concepts and their behavioral relevance. *Journal of Theoretical Politics*, 3(4), 403-435.

Hathaway, O., 2007. Why do countries commit to human rights treaties? *Journal of Conflict Resolution*, 51(4), 588.

Hauer, G. and Runge, C., 1999. Trade-environment linkages in the resolution of transboundary externalities. *The World Economy*, 22(1), 25-39.

- Holzinger, K., 2001. Aggregation technology of common goods and its strategic consequences: Global warming, biodiversity, and siting conflicts. *European Journal of Political Research*, 40(2), 117-138.
- Kaltenborn, B., Riese, H., & Hundeide, M., 1999. National park planning and local participation: Some reflections from a mountain region in southern Norway. *Mountain Research and Development*, 19(1), 51-61.
- Kingdon, J., 1995. *Agendas, Alternatives and Public Policies*, 2d ed. New York: HarperCollins.
- Leeds, B., 1999. Domestic political institutions, credible commitments, and international cooperation. *American Journal of Political Science*, 43(4), 979-1002.
- Majeski, S. and Fricks, S., 1995. Conflict and cooperation in international relations. *The Journal of Conflict Resolution*, 39(4), 622-645.
- Mayer, F., 1992. Managing domestic differences in international negotiations: The strategic use of internal side-payments. *International Organization*, 46(4), 793-818.
- McGinnis, M. ed., 1999. *Polycentricity and local public economies*. Ann Arbor, Mich.: The University of Michigan Press.
- Munthali, S., 2007. Transfrontier Conservation Areas: Integrating Biodiversity and Poverty Alleviation in Southern Africa. *Natural Resources Forum* 31: 51-60.
- Nellemann, C., Vistnes, I., Jordhøy, P., Strand, O., & Newton, A., 2003. Progressive impact of piecemeal infrastructure development on wild reindeer. *Biological Conservation*, 113(2), 307-317.
- Neumann, R., 1998. *Imposing Wilderness: Struggles over Livelihood and Nature Preservation in Africa*. Berkeley, CA: University of California Press.

- O'Hare, M., & Sanderson, D., 1993. Facility siting and compensation: Lessons from the Massachusetts experience. *Journal of Policy Analysis and Management*, 12(2), 364-376.
- Rabe, B., 1994. *Beyond NIMBY: Hazardous waste siting in Canada and the United States*. Brookings Institute Press.
- Pollack, M., 1997. Delegation, agency, and agenda setting in the European Community. *International Organization*, 51(1), 99-134.
- Putnam, R., 1988. Diplomacy and domestic politics. *International Organization*, 42(3), 427-460.
- Ramutsindela, M., 2007. *Transfrontier Conservation in Africa: At the Confluence of Capital, Politics, and Nature*. Cambridge: CABI Press.
- Rapoport, A., 1964. *Strategy and conscience*. New York: Harper & Row.
- Sabatier, P., 1988. An Advocacy Coalition Framework of Policy Change and the Role of Policy-Oriented Learning Therein. *Policy Sciences*, 21(2-3), 129-168.
- Sandwith, T., Shine, C., Hamilton, L., and Sheppard, D., 2001. *Transboundary Protected Areas for Peace and Cooperation*. Gland, Switzerland: IUCN.
- Schelling, T., 1963. *The Strategy of Conflict*. Cambridge, MA: Harvard University Press.
- Sevatdal, H., 2006. Institutions and innovations: Property and Land Use in Norwegian outfields. *Norwegian Journal of Geography*, 60(1), 77-88.
- Skodvin, T. and Andresen, S., 2003. Nonstate Influence in the International Whaling Commission, 1970-1990. *Global Environmental Politics*, 3(4), 61-86.
- Snidal, D., 1991. Relative gains and the pattern of international cooperation. *The American Political Science Review*, 85(3), 701-726.

- Steinacker, A., 2004. Game-theoretic models of metropolitan cooperation. In R. Feiock, ed., *Metropolitan governance: Conflict, competition, and cooperation*. Washington, DC: Georgetown University Press, pp. 46.
- Tarer, A., 2001. International Bargaining with Two-Sided Domestic Constraints. *Journal of Conflict Resolution*, 45(3), 320-340.
- Tiberghien, Y. and Schreurs, M., 2007. High Noon in Japan: Embedded Symbolism and Post-2001 Kyoto Protocol Politics. *Global Environmental Politics*, 7(4), 70-91.
- True, J., Jones, B., and Baumgartner, F., 1999. Punctuated-Equilibrium theory: explaining stability and change in public policymaking. In *Theoreis of the Policy Process*. P. Sabatier, ed. Boulder, Colo.: Westview Press.
- Yaffee, S., Phillips, A., Frenzt, I., Hardy, P., Maleki, S., & Thorpe, B., 1996. *Ecosystem management in the United States: An assessment of current experience*. Washington, DC: Island Press.
- Young, O., 1994. *International Governance: Protecting the Environment in a Stateless Society*. Ithaca, NY: Cornell University Press.
- Young, O., 2002. *The Institutional Dimensions of Environmental Change: Fit, Interplay, and Scale*. Cambridge: MIT Press.