Learning in International Organizations in Global Environmental Governance

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Introduction

Over the past two decades, global environmental governance has been one of the most dynamic fields of international politics. During this period, dozens of international environmental agreements have emerged and numerous international organizations have been formed to administer them.[1] Numerous older international organizations such as the World Bank, the OECD and others have included environmental governance issues into their agendas and work programs.[2]

Although an increasing body of research investigates the external effects of these organizations across different issue areas,[3] little is known about their internal processes and dynamics. Past research has shown that international organizations are able to generate different forms and degrees of external effects through the provision of knowledge and information, the facilitation of international cooperation and negotiations, or through capacity building efforts.[4] However, these outcomes vary across temporal scales as well as across organiza-

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1. Mitchell 2002; and Young 1994.
2. International governmental organizations—in short: international organizations—developed as global bodies who acquired some degree of independence from national public policies. As opposed to their nongovernmental counterparts, this class of international agencies has been established by nation states that have agreed upon a formal mandate for the international organization that grants most of them legal status and basic funding. They can be characterized as a hierarchically organized group of international civil servants with collective resources, identifiable boundaries and a set of formal rules of procedures within the context of a policy area. Biermann and Bauer 2005.
3. E.g. Barnett and Finnemore 2005; Beigbeder 1997; Biermann et al forthcoming; Dijkzeul 1997; Haas 1990; Reinalda and Verbeek 2004; and Shanks et al. 1996.
4. E.g. Jacobson and Weiss 1998.

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tions. This variance in their performance across organizations and across time renders international organizations in environmental policy a particularly interesting case to study organizational change and learning. Can they generate new knowledge? Why and when do international organizations generate new knowledge and change? In what ways do they learn and change? What can be learned to design learning processes into international organizations? These questions will be addressed in this article.

Thus far, little systematic research has explored the types, results and influencing factors of organizational learning and change of international organizations. Most recent advances either employ principal-agent approaches in the tradition of rationalist international relations theory[5] or concepts and insights from organizational theory and management studies. While the former predominantly focus on the interaction between the organizations and national governments as their principals, the latter concentrate on their internal dynamics and structures. Thus far, the fruitful integration of these perspectives has remained elusive.[6]

This article seeks to combine both approaches in an attempt to explain observed variance in organizational learning and change in eight international environmental organizations. It shows that international organizations vary in their ability to generate new knowledge and to reflect more thoroughly on their functions and objectives. While some organizations do not learn at all, others completely overhaul their internal structures, or restrict their learning to amending their current programs or responsibilities. Although principal-agent theory helps us to understand why international organizations initiate learning processes even without pressure or support from their principals, organizational learning concepts from management studies can explain these varying degrees and qualities of learning processes. The empirical data shows that learning processes in international organizations differ depending on the form of specific structures for learning as well as on the personality and the work of the organization's leader.

The article is structured in three sections. The following section gives a brief account of current debates in political science and organizational theory on learning in international organizations. On this basis, a second section develops the conceptual foundations including the understanding of organizational learning. The analytical framework draws on the organizational learning literature and on political science theories, mainly principal-agent theory as applied to international relations studies. The third section discusses eight case studies and presents explanatory patterns for the observed learning processes. Final conclusions address consequences for the design of international organizations and governance processes in global environmental governance as well as future research challenges.

5. Gutner 2005; Hawkins et al. 2006; Nielson and Tierney 2003; and Pollack 1997.
6. E.g. Nielson et al. 2006.

Learning Perspectives on International Organizations

In political science, the awareness of international organizations as collective agents developed from almost complete neglect to a recognition of their organizational capabilities including collective action and decision-making. The political science understanding of international organizations has long been dominated by the realist view that international organizations are purely functional instruments in the hands of nation states.[7] Neither internal dynamics nor autonomous actions of these organizations had any influence and, therefore, were not valuable arenas for research.

More recent approaches, however, increasingly employ institutional and organizational theories to understand the emergence, growth and internal behavior of international organizations.[8] In this literature, scholars have addressed international organizations as collective actors in their own right considering their common rules and norms, their goals, their resources, and their autonomy.[9]

Principal-agent theory has frequently been applied to the study of international organizations.[10] It claims that international organizations attempt to pursue their own interests largely in opposition to their member government principals. In particular, a large number of principals allows an international organization considerable leeway for autonomous behavior.[11] While this body of literature supports the view of international organizations as agents, it pays close attention to the role national governments play as principals.[12] Nevertheless, principal-agent theory assumes that agents behave opportunistically and attempt to increase their autonomy to serve their specific interests such as growth in size and budget. It hardly analyzes why and how these interests emerge and how much they serve other purposes than the advancement of the preferences of the organization and its members. In the light of imminent global problems such as environmental degradation and climate change, international organizations might also be driven by other ambitions such as the goal to accumulate knowledge on and advance solutions to these problems. In addition, international organizations often play a role in constructing and defining these problems.[13] Therefore, more detailed analysis of the internal dynamics and the particular role of knowledge seems warranted.

As yet, there have been only a handful of attempts to examine phenomena

7. Waltz 1979.
8. Barnett and Finnemore 2004; Haas 1990; Haas and Haas 1995; Jönsson 1986; Ness and Brechin 1988; and Reinalda and Verbeek 1998, 2004.
9. Barnett and Finnemore 2004, 16–20; and Underdal 2002, 27.
10. Gutner 2005; Hawkins et al. 2006; Nielson and Tierney 2003; Pollack 1997; and Vaubel 2006.
11. Nielson and Tierney 2003.
12. Some studies also apply principal-agent models to the analysis of the internal relationships between leadership and staff in international organizations. See e.g. Gutner 2005; and Nielson et al. 2006.
13. For an example of how the UNHCR managed to extend its autonomy beyond its formal mandate through the re-interpretation of its original task, see Barnett and Finnemore 2004.

of learning and change of international organizations. The seminal study by Haas[14] analyzes different learning modes of international organizations. It distinguishes between adaptation and learning as crucial forms of learning. Variance between different models of change identified by Haas is found to be mainly rooted in fundamental characteristics of the underlying regime. Internal factors of the organizations themselves seem to be of less importance. Likewise, Haas and McCabe[15] and Haas[16] apply a focus on societal learning processes and the role of international organizations as facilitators of them. In their study, they largely refrain from an internal management perspective although they analyze some internal features of the respective organizations in order to study their impact on the organization's learning performance. In their study of organizational change of the World Bank, Nielson and Tierney[17] fruitfully apply principal-agent theory by focusing on the interplay between national governments as principals and the internal dynamics of the organization. Barnett and Coleman[18] find organizational change in the case of Interpol not to be rooted in learning processes but in strategic choices in response to specific contextual conditions. Explanatory factors include congruity between the organization's culture and its environment as well as the security of its resources. While the main focus of these studies was on the external conditions in which international organizations act, only very recent efforts have begun to bridge internal and external dynamics in analyzing the learning and change processes of international organizations.[19]

Following this line of argument, international organizations will be studied here in an integrated way considering their external relations to their principals as well as the internal dynamics of their organizational structures and personalities. This combines principal-agent theory with organizational theory related to organizational learning. This allows analysis of the capacities international organizations have to act as independent actors.

Analytical Framework

The literature on organizational learning in management studies offers various definitions of what learning is and how it can be distinguished from situations where there is no learning observable.[20] Definitions developed in the corporate management context highlight key characteristics of organizations that are relevant for organizational learning in international organizations. First, organizational learning addresses processes of the generation, transformation, trans-

14. Haas 1990.
15. Haas and McCabe 2001.
16. Haas 2000.
17. Nielson and Tierney 2003.
18. Barnett and Coleman 2005.
19. Nielson et al. 2006.
20. E.g. Dodgson 1993; Fiol and Lyles 1985; Klimecki and Lassleben 1998; Probst and Büchel 1997; and Senge 1990.

mission and diffusion of knowledge inside organizations. The changes in knowledge have to transcend the individual level toward larger organizational structures in order to qualify as true organizational learning. Second, organizational learning relates to organizational action on a collective level as well as on an individual level. Learning processes must lead to changes in structures, cultures, behaviors, or strategies.[21] Third, any meaningful definition of organizational learning necessitates a goal-oriented perspective. It requires identification of the direction of learning, be it better adaptation to market requirements, higher efficiency, or an improved consumer orientation. As indicated earlier, this study focuses on processes of organizational change that seem likely to contribute to solving environmental problems.

Building on these elements, organizational learning can be defined as a change in an organization's practices and strategies caused by a change in the knowledge of an international organization on a collective level. These changed practices can involve changes to organizational structures and hierarchies, to organizational policies and strategies, or to the organizational culture. To qualify as organizational learning, not all of these elements must change. It is sufficient that change occurs in one dimension of a practical outcome. The crucial indicator of organizational learning according to this definition is change in organizational practices that can be linked to processes of knowledge generation and dissemination within an organization.

Forms of Learning

Following the concepts of Argyris and Schön,[22] Fiol and Lyles,[23] and Haas,[24] three specific forms of organizational learning can be distinguished.

No learning. A situation of stagnation or ignorance of external impulses to change and learn. International organizations that refuse to address new challenges or external demands and to develop new knowledge fall under this category. The dominant interpretation of the organization's purpose remains unquestioned and unchanged.

Adaptive learning. This simple form of learning involves the adaptation of new knowledge to existing cognitive frameworks, objectives and causal beliefs. Based on a simple feedback loop between existing expectations and the real outcomes of a process, this instrumental type of learning allows for error correction and leads to adjustment in response to outcomes that differ from pre-existing expectations. However, changes in the dominant interpretation schemes of the organization's purpose are not included under this category of learning.

21. Fiol and Lyles 1985.
22. Argyris and Schön 1996; 1978.
23. Fiol and Lyles 1985.
24. Haas 1990.

Reflexive learning. Any form of change that is not an incremental adjustment and that builds on a change in the prevalent knowledge structure. It includes change in fundamental organizational beliefs as well as re-interpretation of the organization's purposes and strategies for achieving them. Thereby, reflexive learning is confined to higher-level processes involving fundamental cognitive and behavioral changes.

Influences on Learning in International Organizations

Conventional approaches to understanding and explaining the behavior of international organizations in political science resort to *polity* factors such as the institutional setting and the formal mandate of the organization vis-à-vis nation states and other actors. These approaches generally explain an organization's behavior on the basis of its formal mandate and the general institutional embeddedness of the organization. In this study, an organization's polity will be evaluated to assess whether it allows us to explain variation in organizational learning patterns. The analysis focuses on the formal mandate and the organizational structure. It investigates whether multi-purpose organizations such as the UN Environment Programme are better prepared for reflexive or adaptive learning than single-purpose organizations such as the secretariats of international conventions.

While the organization itself remains a black box to most approaches from International Relations theory, this study also includes internal factors. In management studies, attention has been paid to numerous structural, cultural, and behavioral elements and characteristics of organizations that influence the behavior of the individuals and processes of change and development in the organization as such.

Through *learning mechanisms,* organizations attempt to make use of past experiences by reflecting on them and turning them into improved action. Learning mechanisms are the institutionalized structural means by which an organization collects, processes and disseminates knowledge, and thus learns.[25] These learning mechanisms can involve either relatively informal forms of frequent focused communication among participants or highly formalized forms of evaluation workshops or institutionalized review committees with a distinct set of rules of procedure.[26]

Although organizational learning is more than the sum of individual learning, it cannot occur without individual learning.[27] A significant share of the organizational learning literature has, therefore, given particular attention to *change agents,* i.e. individuals that initiate, drive and maintain change and learning processes in organizations.[28] To be influential, change agents need specific

25. This resonates with the structural component of "organizational learning mechanisms (OLMs)" as defined by Armstrong and Foley 2003; and Popper and Lipshitz 2000.
26. Siebenhüner 2002.
27. Sadler 2001; Senge 1996; and Simon 1991.
28. Friedman 2001; Glynn 1996; and Witt 1998.

individual capabilities. Apart from showing proficiency in reflecting on past learning experiences, change agents in an organization must be able to generate, collect, accumulate and disseminate new knowledge. When studying international organizations, one can expect that successful learning in or of international organizations requires change agents with those personal capabilities.

Many of the observable learning processes in organizations are triggered by *external factors* rather than by internal ones. For the study of learning processes in international organizations, these external influences can be highly significant. As principal-agent approaches to the study of international organizations suggest, national governments strive to influence the activities and performance of the international organizations in which they participate.[29] Yet, they have limited means to directly influence the organization. Governmental pressures, thus, can, but do not necessarily influence organizational learning in international organizations. Other changes in the external framework can also trigger significant changes in the size, structure, procedures and knowledge base of the organization. These factors include new scientific findings, criticisms by nongovernmental organizations (NGOs), industry or the media, and experiences with other international organizations.

Analyzing Learning in International Organizations in Global Environmental Policy

Empirical Research Design

The focus of this empirical study is the development of eight different international organizations active in the field of global environmental policy. It covers the period 1990 to 2004. The selection of cases is based on a comparability of their core functions and size while ensuring prima facie variation in basic independent variables, namely polity and external factors. Three different types of international organizations are analyzed in this study. The first type are independent intergovernmental agencies that have a broad, rather than issue-specific, environmental mandate. Within these larger organizations, the study focuses on the respective environmental departments or sub-divisions, while keeping the larger organizational setting in mind. This type is represented by the Environment Department of the World Bank, the Environmental Department within the Secretariat of the International Maritime Organization (IMO), and the Environmental Directorate of the Organization for Economic Cooperation and Development (OECD). The second type are independent intergovernmental agencies that focus on a range of exclusively environmental issues, including the United Nations Environment Programme (UNEP) and the Secretariat of the Global Environment Facility (GEF). The third type are medium-sized treaty sec-

29. See e.g. Nielson and Tierney 2003.

retariats that address only one environmental issue area, specifically the Secretariat of the Convention on Biological Diversity (CBD Secretariat); the Secretariat of the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD Secretariat); and the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC Secretariat).

This qualitative analysis is part of a 4-year research project involving thirteen researchers.[30] Data on learning processes was drawn from the analysis of data provided by the case study authors who analyzed the effects and internal processes of specific international organizations. Five researchers examined different organizations. Consistency in data analysis was evaluated through interactive data analysis sessions. Original data was taken from both internal and public documents, organizational websites, and academic studies and written assessments of diplomats. Moreover, case study authors conducted personal interviews with 100 civil servants during field visits to the respective organizational headquarters. Case study researchers employed a half-standardized interview guideline that covered questions related to organizational learning and change. Researchers evaluated both learning performance and explanatory schemes for each organization, which form the basis for the analysis in this article.

Organizational Learning Processes

The international organizations in the sample vary in their type of learning processes and in the resulting changes. Following the distinction between reflexive, adaptive, and no learning, reflexive learning processes were observable in only two cases since 1990. Five cases provided examples of adaptive learning and one case of no learning was found.

Reflexive Learning. Only two out of eight cases exhibited reflexive learning, namely UNEP and the World Bank.[31] In the case of the World Bank two processes of reflexive learning emerge from the data. First, building on a series of external reports[32], internal reviews, external criticism and donor country pressures, in 1996 an internal re-organization led to the establishment of the "Environmentally and Socially Sustainable Development (ESSD) Network" within

30. The MANUS project ran from 2002 through 2005, with core funding by the Volkswagen Foundation, Germany. The project has been directed by Frank Biermann and Bernd Siebenhüner. The research team included Lydia Andler, Steffen Bauer, Steffen Behrle, Per-Olof Busch, Sabine Campe, Klaus Dingwerth, Torsten Grothmann, Robert Marschinski, Philipp Pattberg, the late Gerhard Petschel-Held, and Mireia Tarradell. For more details see Biermann and Siebenhüner 2009.
31. This finding is in line with Haas and Haas (1995) who analyzed the response of thirteen international organizations to the "environmental problematique" and found the World Bank and the UNEP to be the only ones that exhibited traits of "learning."
32. See Morse and Berger 1992; and Wapenhans 1992.

the Bank and increased stakeholder consultations.[33] Compared to the previous situation, the new network represented an institutional innovation based on a thorough consideration of environmental issues within the Bank. It involved numerous staff members active in environmental and social policy projects with the aim of actively advancing the sustainable development agenda within the Bank. However, Gutner shows[34] that these reforms did not influence all parts and activities of the organization. They remained restricted to selective areas and policies with many lending decision processes largely untouched by environmental reforms. In addition, the implementation of environmental reform was also hindered by the larger organizational restructuring of the Bank entitled the "Strategic Compact."[35] However, formal institutionalization of environmental reform through the ESSD network and the existence of environmental project assessments helped advance environmental concerns in the organization. Second, reflexive learning is related to the emergence of the Bank's environment strategy in 2001. The process was staff driven and organized from the bottom-up. It was informed by an extensive internal, yet nevertheless independent, review of the previous 10 years of the Bank's environmental activities.[36] Moreover, it included a broad consultation process with numerous stakeholders and led to an almost 300 page document that was eventually endorsed by the board of the World Bank. This mutual learning process in the interaction between stakeholders, external experts, and World Bank staff members included a re-thinking of the environmental impacts of the Bank's operations and their partial modification. Also the fact that an internal evaluation[37] gained the same level of credibility and legitimacy as an external one is evidence of a changing internal culture and stronger internal processes for environmental protection. As discussed by Wade,[38] the Bank's adoption of an environmental agenda was also stimulated—after a considerable struggle—by its principals. Yet, not all staff members wholeheartedly endorsed the environment strategy and continued to pursue environmentally harmful infrastructure projects.[39] They were, however, not able to halt the implementation of the environmental strategy with its annual implementation reports. Both processes, the establishment of the ESSD and the environment strategy, changed the internal discourse on environmental problems and had significant impacts on lending policies and the internal culture of the Bank.

The Secretariat of the UN Environment Programme (UNEP) provides another example of a reflexive learner. Originally organized in a sectoral mode, the Secretariat had substantive departments for different environmental concerns,

33. Nielson and Tierney 2003.
34. Gutner 2005.
35. Nielson et al. 2006.
36. Liebenthal 2002.
37. Liebenthal 2002.
38. Wade 2004.
39. Marschinski and Behrle 2006.

such as water management, land degradation, and atmospheric pollution. In a situation of fundamental crisis in 1998–99, the organizational structure was reshuffled on the basis of functional attributes such as monitoring, policy implementation, regional cooperation, or technology and innovation. This restructuring effort was the paramount component of a general organizational overhaul which followed the recommendations of the report of the "Task Force on Environment and Human Settlements" in 1998. The Task Force served as a learning mechanism (see below) and was part of Secretary General Kofi Annan's overall agenda to restructure the United Nations.[40] Subsequently, UNEP's management responded to the perception that certain core governance functions are always needed, independent of the individual characteristics of the environmental problems addressed by the organization. The Task Force concluded that it is more efficient to attribute specific sectoral expertise as the need arises within an overall scheme of cross-cutting sectoral functions. Along with this reevaluation, UNEP reassessed its role in the international policy processes and prepared itself for the emergence of new environmental problems that could not be addressed adequately by the old structure. Unlike other organizations, UNEP thus no longer perceived itself as a service providing, technical preserver of the global environment and redefined its core purpose as an active political agent in international environmental governance. Although differences of opinion prevail inside the Secretariat as to whether the functional approach is preferable to the sectoral approach, the reform has been swiftly implemented and is seen to have helped to regain the confidence of governments, which had slipped in the mid-nineties.[41]

Both these cases qualify as reflexive learning due to the organizations' deliberate and systematic reflection on past experiences and the fundamental rethinking of their strategies and objectives towards environmental issues. The learning processes created and mobilized new knowledge related to better organizational performance through different internal structures and responsibilities. Moreover, they resulted in fundamental changes that included either the entire organization in the case of UNEP or a significant part of it in the case of the World Bank. More effective solutions of environmental problems can be expected from these changes—even though they did not affect all activities of the respective organizations.

Adaptive Learning. Adaptive learning was observed in five cases. These learning processes drew mainly on external sources of knowledge and centered on operational issues and the correction of apparently erroneous developments. In all observed cases, no systematic consideration of past experiences or strategic change was observed. Learning was triggered by pressures or demands originating from outside the organization. The results of these adaptive learning pro-

40. Annan 1997; and Mee 2005.
41. Bauer 2006a.

cesses can be separated into two categories: (i) changes in the internal structure and (ii) adoption of new policies.

Adaptive changes in the internal structure were observed in three cases. Unlike the UNEP case, the observed changes resulting from adaptive learning processes at the OECD, the GEF Secretariat and the CBD Secretariat involved only minor parts of the organization.

The CBD Secretariat had to adjust its structures twice. First, in 1996 on the occasion of the external decision to move their offices to Montréal, Canada, the Secretariat revised its administrative structure and developed a more elaborate organizational set up. It took advantage of this move to establish itself as a largely independent bureaucracy separate from UNEP to which it formally belonged. Second, the emergence of the new Biosafety Protocol involved new tasks for the Secretariat. Following the initiative of its Executive Secretary, a new internal biosafety unit was established in 2000 that was responsible for coordinating the biosafety-related tasks of the Secretariat.[42]

In the case of GEF, it is often argued that the organization has "a strong ability of adaptation to a changing environment,"[43] or is a "work in progress."[44] When studying the evolution of the entire GEF since 1991, several changes to the institutional structure and processes are apparent, most of which were triggered by external demands. The most fundamental change was the restructuring after the pilot phase from 1991 to 1994 after which a re-evaluation was planned. Internal and external reviews of the work of this phase led to the conclusion that a new organizational structure was needed, including a more independent Secretariat. New decision-making rules and a formal mandate were adopted by the governments and implemented by the Secretariat. Throughout this process, the small Secretariat was largely restricted to a rather passive role. In another adaptive learning process, the GEF Secretariat concluded an apparent conflict with its implementing agencies in a memorandum of agreement. Following an intense debate between the agencies and the Secretariat, the Secretariat gained the authority to make sure that GEF criteria are fulfilled by the project proposals while the implementing agencies ensure that the technical requirements are met.[45]

The relative frequency of the OECD's organizational changes in the Environment Directorate's structure[46] and the range of issues which have been addressed by the Environment Directorate suggest that it adapted relatively easily through a change in its internal structure. First and foremost, the establishment of an internal Environmental Directorate and the Environmental Policy Committee (EPOC) in 1970 marked the early response of the bureaucracy to member state governments' demands for more environmental policy advice. This,

42. Siebenhüner 2007.
43. Streck 2001, 71.
44. de Chazournes 2003, 24.
45. Andler 2006.
46. Long 2000.

and subsequent adaptations to governments' demands have been driven primarily by the ultimate decision-making power of member countries. Other examples include the establishment of an environmental policy reporting scheme on national performance and the development of the stimulus-response approach in the 1980s and 1990s. These initiatives left the Directorate no choice other than to adapt to the priorities of governments. Often the Directorate's work in a new issue area starts with gathering experiences from member countries, either through a workshop or a range of case studies in member countries. Workshops, for example, provided the conceptual background for the development of the polluter-pays principle, the OECD's sustainable development strategy, its work on trade and environment, and its work on climate change.[47] The anticipatory nature of the working procedure guarantees that member countries can relate the information to their experiences and thus may increase the likelihood that they consider the recommendations. Nevertheless, all of these changes during the 15-year study period left intact the dominant view of the organization's purpose as a facilitator of effective economic and environmental regulation in the member states.

Adaptive learning resulted in the adoption and implementation of new policies in the cases of the Secretariats of the UNFCCC and of the UNCCD. In the case of the UNFCCC Secretariat, adaptive learning led to the installation of a Joint Liaison Group in 2001 that brings together representatives of the Secretariat with those of the CBD and the UNCCD convention processes. The group provides a forum for sharing information, coordinating activities and identifying measures in order to exploit possible synergies. By building up this group, the Secretariat reacted to the perceived failure to recognize the overlap of the work efforts of the different secretariats and several governments. In a similar vein, the UNCCD Secretariat promoted the establishment of the "Committee for the Review of the Implementation of the Convention" (CRIC) as an additional intergovernmental institution operating under the convention. This committee was designed as an instrument to monitor the implementation of the Convention and to feed the findings into the work of the other convention bodies of the UNCCD. The Secretariat sought to form an organizational structure to mediate between the interests of powerful developed countries and other convention processes, and to promote the convention processes with regard to the formulations of the UNCCD. It reacted to the explicit plans of several governments to establish a different organizational structure which was seen as less favorable for the Secretariat.[48]

No Learning. The Secretariat of the International Maritime Organization (IMO) is a particular case where no learning appears to have occurred. Its basic beliefs and interpretation of its purpose remained unchanged over the investi-

47. Busch 2006; and Long 2000.
48. Bauer 2006b.

gation period. To the contrary, the IMO was resistant to demands for change and restructuring. When the IMO was urged to incorporate the precautionary principle in the wake of the UNCED process, it did not respond. In the 1990s, IMO officers persistently stuck to the work program of the 1980s to avoid structural change.[49] The only candidate for a learning process over the 15 year study period was the mainstreaming of technical assistance into the different specialized divisions such as safety or marine environment. This mainstreaming aimed at improving the assessment of the needs for technical development through the technical officers involved in the implementation of IMO conventions.[50] Nevertheless, the process did not result in a change of general strategies, nor did the relevant individuals or groups consider other philosophies or means to achieve their goals. Nor was an adaptive learning process observed that produced internal changes on the basis of largely external pressures or the awareness of apparent errors. Therefore, no learning, in the sense defined above, was observed in this case.

Explanatory Factors

What were the main causal factors for the emergence, the course and the outcomes of the learning processes observed in these cases? On the basis of the analytical framework developed above, a number of factors can be identified that possess explanatory power. The following factors have been discussed in the interviews with direct or indirect connection to learning processes. For an overview see Table 1.

Polity. As the data shows, whether the organization is multi- or single-issue correlates with the form of learning. All reflexive learners are multi-issue organizations that address several problems in the environmental realm and beyond. For instance, UNEP has been designed to combat various environmental problems, which necessitate flexibility and an ability to learn that enables the organization to address new issues and to improve its performance over time. Likewise, the World Bank deals with an even broader array of issues including development, poverty, and economic prosperity. As such, the transfer of knowledge and concepts across issues becomes likely, sometimes fostering learning. However, several single-issue organizations such as the UNFCCC, the UNCCD and the CBD Secretariats exhibited adaptive learning, suggesting that this basic characteristic of "number of issues addressed" does not completely explain the learning processes observed.

The official mandates of organizations also influence the form of learning. Mandates delineate the scope and areas of activity and organizational decision-making structures. While the World Bank has a broad mandate giving it sig-

49. Birnie 1999.
50. Campe 2006.

Table 1
Learning Processes and Explanatory Factors

	UNEP	*World Bank*	*OECD*	*GEF Secretariat*	*UNFCCC Secretariat*	*UNCCD Secretariat*	*CBD Secretariat*	*IMO Secretariat*
Learning processes	Reflexive learning	Reflexive learning	Adaptive learning	Adaptive learning	Adaptive learning	Adaptive learning	Adaptive learning	No learning
Explanatory Factors								
Polity	*Multi-issue organization, moderately wide mandate*	*Multi-issue organization, wide mandate*	*Multi-issue organization, moderately wide mandate*	*Multi-issue organization, narrow mandate*	*Single-issue organization, narrow mandate*	*Single-issue organization, narrow mandate*	*Single-issue organization, narrow mandate*	*Single-issue organization, narrow mandate*
Learning mechanisms	*Task force with internal and external experts*	*Internal independent report, Evaluation department*	*Workshops with experts*	*Project reviews*	*External review through governments/COP*	*Staff retreats, External review through governments/COP*	*External review through governments/ COP*	*No learning mechanism*
Change agents	*New Executive Director*	*President and environmental experts*	*No dominant role of change agents reported*	*No dominant role of change agents reported*	*No dominant role of change agents reported*	*Executive Secretary introduced staff retreats*	*Executive Secretary developed new organizational structure*	*No dominant role of change agents reported*
External factors	*Pressure by UN Secretary General*	*National government and NGO pressures*	*Criticism by national governments and external events*	*Criticism and suggestions by national governments*	*Criticism by national governments*	*Criticism by developed country governments*	*Signature of a new protocol*	*No related external factors observed*

nificant leeway to pick its fields of activity and to decide autonomously, UNEP as the other reflexive learner only has moderate leeway to choose its fields of action and the strategies for approaching them. Over the years, many responsibilities have been withdrawn from UNEP, such as climate change, desertification and the protection of forests. Nevertheless, in contrast to all the convention secretariats, UNEP has found ways to select relevant new issue areas to engage. In this dynamic political framework where governments regularly interfere with the organization's decisions, UNEP developed a reflexive learning ability to cope with these interventions. While all three convention secretariats have been given similar mandates, all developed different ways to deal with them and to establish some autonomy vis-à-vis national governments. For example, the UNCCD Secretariat brought about and maintained an international discourse on desertification.[51] One could conclude that organizations with a narrow mandate will have difficulties in developing reflexive learning since they cannot reconsider the purpose of their activities by themselves or establish new targets without approval by relevant national governments. However, since the no-learning organization also has a narrow mandate, this factor also fails to provide an all-encompassing explanation for observed variation in learning processes.

Learning Mechanisms. With regard to the mechanisms organizations used to initiate and implement learning processes, they exhibited significant variation with clear divergence in results. Observed learning types appear to be linked to the structural mechanisms chosen for learning in each case. All learning processes, however, required learning mechanisms as a structural foundation for their functioning and legitimacy in the organization. Only the IMO lacked a comparable learning mechanism. The following learning mechanisms were observed in the other cases:

- *Task force with internal and external experts (UNEP):* To a large extent, the reflexive learning process within UNEP took place within a special task force introduced by the then new executive head. To counter the generally perceived crisis of UNEP in the mid 1990s,[52] a high level "Task Force on Environment and Human Settlements" was set up in 1998 by the UN Secretary General with Klaus Töpfer as its chairman. The Task Force consisted of experts both internal and external to the UNEP bureaucracy including the former heads of the UNDP, the UN Economic and Social Council and the UNCED. The fact that Töpfer also became the new Executive Director of UNEP in 1998 can be seen as an additional contributor to success since it allowed him to supervise the implementation of task force recommendations. He used the learning process within the Task Force for a general organizational overhaul.[53]

51. Bauer 2006b.
52. Mee 2005.
53. Bauer 2006a.

- *Internal independent reports by the evaluation department (World Bank):* As a learning mechanism, the World Bank employs internal reports such as the 1992 Wapenhans report authored by staff members. It was extremely critical of environmental aspects of the Bank's past lending policies.[54] In 1994 the Bank's board installed an independent panel to collect criticisms and complaints from internal and external individuals and groups. This allowed the gathering and synthesizing of external knowledge for internal reflexive processes that led to organizational changes.[55] As a regular procedure, the Bank commissions its Operations Evaluation Department (OED) with monitoring and evaluation of its own work. The reflexive learning process that led to the extensive environmental strategy of the World Bank was based on a 2002 OED report reviewing the last 10 years of Bank environmental activities.[56] It drew from numerous interviews with World Bank staff and from consultations with external experts.
- *Staff retreats (UNCCD Secretariat):* Organized by the management of the UNCCD Secretariat, staff members convened in professional retreats to discuss current practice and problems in Secretariat performance.[57] While several retreats discussed the implementation of the Convention and possible contributions of the Secretariat, one focused on strengthening team spirit and obtaining a better understanding of human relations inside the Secretariat. In the latter case, it reacted to external criticism by the Conference of the Parties (COP). The Executive Secretary had arranged for these two-day retreats to review past experiences and to identify ways and means to improve efficiency, effectiveness and teamwork. Among staff members, the retreat was generally regarded as a serious attempt for adaptive learning by improving both the quality of the workplace and the performance of the organization. There was an expectation that a professionally moderated retreat would address deficiencies of internal communication and information flows. However, persistant external criticism from the COP indicates inadequate adaptation to external demands. Given that no external experts joined staff members at the retreats, the influx of new knowledge and impulses for change were limited.
- *Workshops with experts (OECD):* Over the course of its existence the Environment Directorate of the OECD organized numerous seminars and conferences that drew prominent external experts. Their objective was to gather the current state of knowledge in particular environmental policy issues. The results of these seminars were fed into working processes of OECD committees and their subsidiary bodies. They constituted an important means through which the Environment Directorate influenced discourses among member countries. Starting in 1971, the "Central Unit of Analysis and Evaluation" in the Environment Directorate has organized

54. Wapenhans 1992.
55. Nielson and Tierney 2003.
56. Liebenthal 2002.
57. Bauer 2006b.

regular seminars on environmental economics issues, bringing together both researchers and practitioners. Based on their results, the Environment Directorate identified and defined key issues in environmental economics which were subsequently addressed in committees' efforts.[58] Ideally, this type of learning mechanism provides for the absorption of cutting-edge scientific research in relevant fields, whereas conclusions for policy making and for the work of the organization need to be drawn by the members of the organization. Therefore, this mechanism does not necessarily promote reflexive processes but seems well suited to instigate them.

- *Project reviews (GEF Secretariat):* The Secretariat of the GEF has institutionalized a mechanism to review and analyze different GEF activities, including the performance of the Secretariat and of specific projects. Every four years, external reviewers accomplish an overall performance study on all issues concerning the GEF. Given the focus on possible deficiencies with regard to the existing objectives of the GEF work, this instrument triggered only adaptive, rather than reflexive learning processes.[59]
- *External review through governments/COP (CBD, UNCCD, UNFCCC Secretariats):* Traditionally, the work of convention secretariats is reviewed by the relevant COP on the occasion of its regular annual or biennial meetings. This applies to the CBD, UNCCD and UNFCCC Secretariats. However, this review does not follow a formal pattern or distinct procedural rules but is based on perceptions of individual governments and their representatives as voiced in the COP meetings. In particular, in the case of the UNCCD Secretariat, this review led to harsh consequences during the 2003 and 2005 COPs. The parties decided to reduce the staff of the Secretariat to sanction perceived deficiencies. Whether these measures will induce learning processes remains to be seen. Since this form of review is carried out by organizational principals, little reflection on the objectives and the role and activities of the Secretariats can be expected. It is therefore more likely a trigger for adaptive rather than reflexive learning.

From a general perspective, certain elements of learning mechanisms seem to hold relevance for the character of the learning process. First, successful learning processes require the effective combination of independent and external knowledge with internal knowledge. This brings new ideas into the debate and fosters the establishment and merging of new perspectives with existing ones inside the organization. Second, to become effective, learning mechanisms must be complemented by additional forces such as sanctioning mechanisms of governments or leadership qualities of the head of the organization. Third, the choice of the learning mechanism itself promotes different modes of learning but is not a sufficient condition for the formation of adaptive or reflexive learning pro-

58. Busch 2006.
59. Andler 2006.

cesses. Some mechanisms promote adaptive learning while others promote reflexive learning but neither fully determines the mode of the learning process.

Change Agents. Individual agents of change play a significant role in the emergence and the pursuit of reflexive as well as adaptive learning processes in international organizations. In the relevant cases, change agents held leadership positions. There was no case of an effective learning process triggered by officers from medium or lower levels of the organizational hierarchy.[60] Nevertheless, change agents in leadership positions were not always the major drivers of learning and change. Although all processes required committed individuals, only in two cases did change agents in executive positions play the dominant role.

First, the learning process within UNEP was largely triggered and driven by its new Executive Director starting in 1998. With the help of the General Secretary of the UN and the report of the High Level Task Force, Klaus Töpfer was able to initiate a thorough learning and restructuring process of UNEP. Thanks to his unique personality, he was able to convince most internal and external critics of the need for change and also gained critical support from inside the bureaucracy.

Second, most learning processes at the World Bank were driven by the Bank's leadership, in particular President James Wolfensohn. He was the key driver for reflection on and implementation of the "Environmentally and Socially Sustainable Development (ESSD) Network" within the Bank in 1996. Moreover, he introduced a procedure of extensive stakeholder consultations that provided a mechanism for further learning processes. Bank employees maintain that he was a key driving force behind the changes the Bank went through. Developments after the study period highlight the environmentally detrimental role of Wolfensohn's successor Wolfowitz who chose to integrate the Environment Department into the larger Infrastructure Department.

External Factors. Among those factors that originate from outside the organization, national governments and NGOs were most influential in the learning processes observed. However, their influence was strongest in cases of adaptive learning. In these cases, the initiative for learning and change originated from other agencies or actors. Reflexive learning processes could not be explained on the basis of these factors alone; they necessitate the efforts of additional internal actors.

When viewed under a principal-agent approach, the organizations' relations to the national governments are seen as central. This explanatory avenue applies best in the case of the convention secretariats examined here. The

60. While this study supports the central role of change agents as norm entrepreneurs in the sense of Finnemore and Sikkink, it also leads to the conclusion that change agents need to avail themselves of executive powers or direct links to the senior management level in international organizations. See Finnemore and Sikkink 1998.

UNCCD Secretariat has met pressures and criticisms by developed country governments several times, mostly expressed at the COP meetings. In particular, efforts by the Secretariat to advocate for developing country interests gave rise to criticism from developed countries. The establishment of the CRIC committee can be seen as a reaction to suggestions by developed country governments to install different organizational units that would better serve their interests. The heterogeneous demands by national governments gave the organization some leeway for its own initiative to build up the committee.[61]

Similarly, the adaptive learning process that led to the installation of a Joint Liaison Group by the UNFCCC Secretariat with other convention processes followed pressures from national governments. Governmental representatives criticized the failure to recognize the existence of overlapping areas of work of several environmental conventions and urged the Secretariat to address them. Since the Secretariat is highly responsive to governments' requests, it followed the suggestions rather quickly.

Likewise, the restructuring of the GEF in 1994 followed criticisms and suggestions by national governments and NGOs. In particular, the unclear responsibilities and the conflicts with the World Bank, UNEP and UNDP as implementing agencies of GEF raised concerns among several national governments. NGOs and developing countries strongly criticized the GEF Secretariat for its close association with the World Bank and its lack of transparency and accountability.[62] The restructuring responded to this criticism by establishing more transparent evaluation schemes and a more independent position for the Secretariat.

A similar mix of governmental and NGO pressures contributed to the instigation of learning processes in the World Bank. State principals, especially western countries, pushed on several occasions for stricter environmental policies. The governments, in turn, had been urged by national or international NGOs to implement stricter environmental domestic and international regulations. This pressure also provided a fruitful basis for the development of the ESSD Network within the Bank.[63]

However, in the other cases, learning processes were not directly triggered by national governments. In the case of UNEP, it was a loss of responsibilities and conflicts over the related budgets and resources that spurred the internal commitment to reform. When the high-level task force report was published, the reform agenda gained momentum, even though it was not directly linked to the initiatives of particular national governments.

In addition, single events in international politics also helped trigger some learning processes in international organizations. Adaptive learning was triggered in the CBD Secretariat by the signature of the Cartagena Protocol on

61. Bauer 2006b.
62. Streck 2001.
63. Wade 2004. Gutner 2005 highlights the limitations of environmental reforms in the World Bank that have not been mainstreamed into most lending decisions.

biosafety that pushed the Secretariat to fulfill related functions. OECD staff members regarded external developments and political events as crucial for the initiation of adaptive learning processes in their organization—in addition to the demands by member governments.[64] For instance, international events and reports such as the United Nations Conferences on the Human Environment in Stockholm in 1972, UNCED in Rio de Janeiro in 1992, the Club of Rome report[65] and the Brundtland report[66] influenced the work and learning processes inside the OECD. Nevertheless, new demands of member countries and influences external to the organization are highly interrelated. Often new demands by member countries reflected external influences which subsequently were translated into new priorities for the Environment Directorate. Given this interrelation, learning processes in the Environment Directorate can be described as mainly government driven.

A third external factor for triggering learning processes in an international organization was pressure from within the UN system. Most notably, a push by Secretary General Kofi Annan to install the High Level Task Force to review the functions of UNEP helped foster development of a reflexive learning process. Through this initiative, this particular learning mechanism was established and the key change agent in the subsequent learning process, Klaus Töpfer, was entrusted with a change agent's role.

Conclusions

This article has analyzed learning processes in international organizations with a focus on international environmental policy. Learning and change within eight international bodies was analyzed on the basis of organizational theory and principal-agent theory. This combined approach provided an encompassing explanatory tool for the learning processes observed. While some patterns within international organizations seem specific to the organizations studied and the field of international environmental policy, the study also allows for some general conclusions.

First, intergovernmental organizations in environmental policy can generate knowledge and learn on an organizational level. However, forms and outcomes of organizational learning processes differ. The data presented here reveals organizations engaged in reflexive learning, adaptive learning, and no learning. While reflexive learning tended to induce fundamental changes in organizational structures and their practices, adaptive learning brought the organization in line with the demands of external stakeholders and induced only minor changes inside the organization itself. One can expect to find this variation in the types of learning in other international organizations as well.

Second, an organization's polity sets out the landscape for possible learn-

64. Long 2000
65. Meadows et al. 1972.
66. World Commission on Environment and Development 1987.

ing processes. Multi-issue organizations with a wide mandate have some leeway to embark on reflexive learning involving reconsideration of their purpose and the targets to be pursued. Single-issue organizations with a narrow mandate will more often be restricted to adaptive learning if they learn at all. Moreover, the degree of independence from principals seems of importance in the case of international organizations. Since national governments and in some cases also NGOs play important roles for intergovernmental organizations, some leeway to learn and change direction on the side of the organization seems necessary for reflexive learning to occur. They need to have enough formal or informal autonomy from external actors such as national governments to act and to acquire and pursue knowledge independently. This relationship between national governments as strong principals and the organizations as agents seems to be a distinctive feature of intergovernmental organizations. National governments as the principals of international organizations can restrict the organization's autonomy and thereby its scope for learning. The absence of their direct influence often allows internal forces to promote particular learning processes.

Third, any form of learning, be it adaptive learning or reflexive learning, necessitates learning mechanisms as means to acquire and generate new knowledge. These mechanisms have tended to be used as a means to identify and implement solutions to organizational problems. In particular, mechanisms that incorporate independent, external knowledge seem to be better prepared to trigger adaptive or reflexive learning than those that close off the organization against such knowledge. Reflexive learning, however, requires that external and internal knowledge bases are integrated and that principals grant the organization sufficient authority to establish and respond to learning mechanisms.

Fourth, reflexive learning necessitates an independent leader who is also willing and able to act as a change agent. This finding emphasizes the common call for change agents with executive powers in the organizational learning literature.[67] In particular, it stresses the need for leadership qualities to promote reflexive learning.

Fifth, adaptive learning appears to be triggered by external pressures either from national governments and/or NGOs or other international organizations. While adaptive learning in business firms is not bound to external pressures, in the international organizations in this study, all adaptive learning occurred in response to external demands and pressures. This finding only partly confirms claims from principal-agent theory. Pressure from principals is a relevant factor also for internal learning processes, but it hardly suffices for an explanation of the processes observed in these cases. Most learning processes develop their own dynamics and result from the interaction of internal and external factors with national governments as only one group of relevant stakeholders.

67. Sadler 2001.

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