

**Multi-Level Governance: The Case of Climate Change**

**Liliana B. Andonova**

Colby College

landonov@colby.edu

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## **Introduction**

Over the last two decades, the number of international environmental agreements has increased exponentially. So have studies of environmental institutions and their effects (Chayes and Chayes 1995, Choucri 1993, Haas 1989, Haas, Keohane and Levy 1993, Keohane and Levy 1996, Mitchell 1994, Victor, Rausatalia and Skolnikoff 1998, Weiss and Jacobson 1998, Young 1989, Young 1997, Young 2002 and others). In sync with the dominant perspective on international relations as a system of unitary states, most of this literature focuses on inter-state dynamics of cooperation. Institutions are viewed as products of inter-governmental bargains that established rules and norms of behavior. These norms are internalized domestically top-down through commitments, socialization, ratification and change in domestic politics and capacities.

In this article, I draw attention to a different institutional form in international environmental politics: trans-governmental institutions. Trans-governmental institutions codify rules and norms agreed upon by sub-units of governments, rather than by formal inter-state negotiations, and establish structures intended to influence behavior and policies horizontally, rather than hierarchically. This institutional type is of growing importance in international relations (Slaughter 2004). The advent of democracy, communication technologies, and increasingly complex governance problems underpin the significance of transnational cooperation and rule making. The environmental governance literature has also drawn attention to the role of specific transgovernmental networks including epistemic networks of scientists (Haas 1989), and networks of city officials implementing climate change policies locally (Betsill 2001; Betsill and Bulkeley 2004). This paper seeks to extend the study

multi-level environmental governance further by examining transgovernmental networks as an increasing institutionalized form of transnational governance and by attempting to disentangle their role in the area of climate change.

The paper proceeds as follows. The next section establishes the place of the study of trans-governmental institutions in the literature on transnational relations. Section three specifies the characteristics of trans-governmental institutions and how they relate to other elements of layers of governance. The empirical part of the paper examines the role of trans-governmental institutions in the climate change regime, and presents a detailed account of the structure and role of two such institutions, the Ecolinks program and the program for National Strategy Studies of JI/CDM Implementation. The conclusion draws broad lessons for international cooperation. Thus, while the empirical focus here is on environmental governance, which, as Oran Young (1997) pointed out, has been a source of institutional innovations in international politics, the paper also highlights the more general theoretical relevance of the analysis both through examples from other issue areas and by setting a broad new agenda for research.

### **Transnational Relations and Institutions**

Transnational relations, defined as political transactions that link societal actors or subunits of governments across national boundaries, are not a new phenomenon. Direct cross-border contacts of businessmen, bureaucrats, elites, and intellectuals have always been part of the international system of states. Two prominent examples from the recent past include transnational networks of business and bureaucrats that underpinned the imperial system, and

the revolutionary ideas and movements of the 19<sup>th</sup> and 20<sup>th</sup> century that moved through transnational channels to affect political regimes.

In contemporary political science, an edited volume by Keohane and Nye (1971) first drew attention to the modern significance of transnational relations, amplified by the growth of transportation, communications, and interdependence. However, this scholarly interest proved to be very transient during the 1970s as the literature placed a heavy focus on interstate relations in the Cold War system. In the mid 1990s, after the end of the Cold War, another edited volume by Risse-Kappen (1995) called again for rediscovering the transnational relations research agenda. And indeed, since the late 1980s, the international relations literature has made great strides uncovering the mechanisms of influence of transnational actors such as multinational corporations (Choucri 1993, Garcia-Johnson 2000), advocacy organizations (Keck and Sikkink 1997, Mathews 1997, Risse, Ropp, and Sikkink 1999, True and Mintrom 2001 and Wapner 1996), epistemic communities of scientists and experts (Haas 1989, Haas 1992), and bureaucratic networks (Slaughter 1997, Steinberg 2001). It is worth noting that the environmental literature often led the way in this inquiry along with studies of human rights, health, and economic governance. Most of the literature on transnational relations places an emphasis on understanding transnational **coalitions of actors**, and thus as agents of change - their organization, interaction with international and domestic institutions and actors, and influence (Garcia-Johnson 2000, Keck and Sikkink 1997, Risse, Ropp, and Sikkink 1999, Haas 1989, Slaughter 1997, True and Mintrom 2001, Wapner 1996). Increasing, however, these coalitions gel into institutionalized forms of governance, establishing sets of rules, norms and governance procedures. But there has been little

relatively little effort to understand the cumulative role of transnational **institutions** as a distinctive layer of governance.

The question of governance is identified as critical in the conditions of globalization and density of transnational relations (Young 1997, Young 2002, Keohane and Nye 2000, Held and McGrew 2000, Rosenau 1997, Slaughter 1997). Regime theorists have started to examine the interaction of institutions at different levels of governance from global to local (Young 2002, Ostrom et al. 2002). James Rosnau (1997), whose approach departs more radically from the state-centered perspective, conceives of governance in what he sees as an inherently transnational world as the sum of governance activities at different levels.

Keohane and Nye (2000) who revisited the question of governance in an interdependent world at the end of the 20<sup>th</sup> century, unlike Rosnau do not foresee the demise of the state as an organizing principle of the governance, but also point to the significance of and linkages among multiple layers of governance in the global system. The literature dealing with the challenges of contemporary governance mentions in passing the term trans-national institutions, but without much in-depths theoretical and empirical elaboration.

Transnational institutions, I argue, are more than the sum of the activities of transnational actors and more than the sum of linkages between the well-established realms of supranational, national and local institutions. Trans-national institutions constitute a distinctive layer of governance, situated between and overlapping with supranational and domestic governance structures. It is a new layer of institutions in the narrow and well-defined sense of the word as rules, norms, and principles intended to influence behavior of actors (Krasner 1983).

Trans-national institutions are distinct from the political activities of trans-national agents in that they codify practices and institutionalize rules. For example, multinational chemical corporations and their political activities across borders constitute an agency network not an institution. However, the Responsible Care Program of the chemical industry is a privately established trans-national institution that embodies an explicit set of rules (Garcia-Johnson 2000). Similarly, a network of central bankers cannot be defined as an institution itself, but the Basle Committee on Banking Supervision is an institution that establishes a set of rules and norms (Slaughter 1997). The distinction between transnational actors and institutions is important, since as in other layers of governance, it is important to distinguish between agency on one hand, and rules and organization of governance on the other.

Transnational institutions can be established privately by various non-governmental actors with transnational ties or agenda, and publicly by units of national governments or inter-governmental organizations. Examples of private institutions of transnational activity include the Responsible Care Program of the International Chemical Industry Association or the Forest Stewardship Council certification, established by advocacy organizations (Garcia-Johnson 2000; Cashore et al. 2004). Publicly sponsored transnational institutions, in turn, are established by public actors and often with public funding. This category can be split further to make a distinction between transnational science-and-expertise institutions and trans-governmental institutions. Transnational expertise institutions establish procedures and rules that govern cooperation, information provision, and consensus building among scientific bodies (Mitchell et al. forthcoming). Trans-governmental institutions are rules, norms and procedures of cooperation established by subunits of governments and international agencies.

Unlike inter-governmental institutions, they are not established by official inter-state negotiations and binding mandates, but rather on the basis of semi-formal agreements among units of government bureaucracies (Slaughter 2004). For example, while the United Nations Framework Convention on Climate Change (UNFCCC) exemplifies an inter-state institution, the US Department of Energy Country Studies Program that links specialized agency to support preparation and reporting of greenhouse gas inventories is an example of a trans-governmental institution. Increasing public and private actors also cooperate through transnational public-private partnerships or institutions such as the Global Compact hosted by the UN, or the public-private partnerships adopted as official outcome of the 2002 Johannesburg Summit on Sustainable Development (Ruggie 2002, Andonova and Levy 2003).

The above typology of trans-national institutions, outlined graphically in figure 1, of course, should be viewed as a tool to guide the study of trans-national institutions rather than an impermeable categorization that matches reality one hundred percent. In reality, the boundary between public and private institutions and science and government activities are not so neatly defined, especially in transnational relations. Many trans-governmental institutions, for example, are established by government agencies but also involve and seek to influence non-governmental actors. Science-and-expertise institutions are again a very special category that reflects an important functional characteristic. The boundary between inter-governmental institutions and trans-governmental institutions is similarly not cut in stone. In fact, some scholars have noted that inter-governmental institutions such as the UN have both intergovernmental and transnational agendas, rules and activities, which at times may even conflict with each other (Cronin 2002). Despite practical overlaps between these analytic

categories, however, their specification is helpful and represents the first step in studying systematically the realm of transnational governance.

Being impossible to cover in a single paper the universe of trans-national institutions, I focus in the following sections on the subset of trans-governmental institutions. Trans-governmental institutions, I will show through the example of climate change, are an increasingly important and distinctive element of international regimes. Yet, the structure and cumulative role of these institutions in global regimes remains very poorly understood. The next three sections, therefore, address a host of questions related to the main characteristics of trans-governmental institutions, factors that contribute to their role in international cooperation, and finally, some critical questions related to the concepts of accountability, legitimacy, and sovereignty.

### **Structure and Characteristics of Trans-Governmental Institutions**

#### *Horizontal networked structure*

A horizontal networked structure is a distinctive characteristic of trans-governmental institutions and constitutes an important difference in the organization and function of inter-governmental and trans-governmental institutions. Inter-governmental institutions are typically viewed as part of a hierarchical structure of governance. Their rules and mandates are negotiated by states speaking or pretending to speak in a unitary voice, and they influence behavior of states top down through commitments, incentives, and suasion. Contrary to this hierarchical mode of governance, transnational institutions are established horizontally, building on or establishing extensive networks of functionally similar units of governments

and often involving also non-governmental actors active in the same functional area. Such institutions are thus closely related to transnational coalitions and policy networks (Slaughter 1997, Sabatier 1989, Steinberg 2001), but are not identical to such coalitions in that they establish very specific rules and norms to influence political behavior.

Trans-governmental institutions often emerge in parallel and relation to inter-governmental agreements, addressing through different, horizontal mechanisms collective action and transaction cost problems pertaining to international cooperation or national policy implementation. For example, the Kyoto Protocol is a result of inter-state cooperation on global climate change, but a number of trans-governmental institutions link bureaucracies and sub-national actors to tackle narrower problems related to the implementation of the flexible mechanisms endorsed by the protocol. While the EU Social Charter is negotiated and adopted at the inter-governmental level and national policies are approved by parliaments, the international cooperation framework of the Dutch social ministry is an example of a trans-governmental institution that engages similar agencies to gather information, monitor social security practices, build capacity internationally, and prevent the abuse of the Dutch and European social security system in other countries of the world. Another European example of a trans-governmental institution is the European Commission twinning program for administrative reform and capacity building in Central and Eastern Europe initiated in parallel to and in support of the inter-governmental accession negotiation between East European countries and EU member states. The parallel processes of NATO membership negotiations and the Partnership for Peace programs between NATO and non-NATO states (many of which aspire for membership) can be qualified of another example of co-existence of inter-governmental and trans-governmental processes and institutionalized cooperation.

*The use of information technology and cyberspace for organization*

The use of information technology and cyberspace for organization is another characteristic of trans-governmental institutions. While formal and informal contacts among government bureaucracies has existed throughout the history of modern states, the development of fast and cheap modes of electronic communication during the 1990s and the availability of cyberspace have reduced the cost of formal organization and enabled the institutionalization of such ties and networks into governance structures.

Typically, each trans-governmental institution now has a web site as an anchor of its activities. Shared web sites and e-mail facilitate regular contact among participants in the institutions, as well as the transparency of interactions. Such web sites frequently become depositories of easily accessible data pertaining to international regimes and their implementation that traditional closed bureaucracies might not be willing or able to provide. Many students of comparative politics exposed to extensive field research have probably observed, as I recently have, that “old guard” bureaucrats could refuse to share a policy document or a data set that the researcher would then be able to find on the web site of a government agency or a trans-governmental program.

Again, an important caveat is in order. While information technology is said to have a certain equalizing effect in the process of development allowing developing countries to leapfrog older technologies, there is still a great disparity in the level of computer and Internet and telephony penetration between societies. Trans-governmental cooperation is a vehicle that helps compensate for such inequalities among government bureaucracies, but the lesser degree of connectivity and technology access in certain regions of the world also deprive

organizations from the same level of involvement in inter-governmental structures. It will not be surprising to find a correlation between the density of computer penetration and the density of trans-national institutions across the globe. Recognizing the role of information technology for the existence and effectiveness of trans-governmental institutions is, therefore, important for those concerned with institutional effectiveness, fairness, and governance capacity.

### *Predominantly democratic membership*

The predominant involvement of agencies from democratic or democratizing states is another quite distinct characteristic of trans-governmental institutions. Slaughter (1997) has argued that one of the virtues of transgovernmentalism is the spread of democracy and democratic ideas. The reverse causation is also valid and important, however, for the establishment of trans-governmental institutions. The functioning of such structures requires uninhibited transparency and willingness to share information, and has been immensely enhanced by the waves of democratization during the 1980s and 1990s.

Consider an example. The Gore and Chernomirdyn Commission, established during the second Clinton Administration, was a trans-governmental institution seeking to guide US-Russia cooperation towards environmentally sustainable choices. It is difficult to imagine the establishment of a similar trans-governmental commission involving President Carter's administration and Leonid Breznev's government, for example, despite the fact that Breznev saw environmental cooperation as a non-threatening venue to pursue the objectives of détente. Trans-governmental institutions were probably not in vogue as a channel of cooperation even with friendly to the US, but undemocratic regimes such as those in Argentina, Chile, or South Africa during the 1970s and the 1980s. This is again another important distinction in the

structure and functions of inter-governmental and trans-governmental institutions. While the former are typically tools of diplomacy that apply to all states, certain level of democracy and a common agenda (although not necessarily identical interests) may be quite essential for the latter.

*Focus on narrowly defined policy issues*

Finally, a focus on narrowly defined “technical” policy issues is also characteristic of trans-governmental institutions. The complexity of international and domestic policy problems coupled with the linkages and leakages among issues is a phenomenon identified as one of the most fundamental governance challenges in an era of globalization (Held and McGrew 2000, Keohane and Nye 2000, Young 1997). This complexity has resulted in the growing density of international agreements. The proliferation of international regimes, however, has provoked suspicions of consolidation of non-democratic power at the supranational level and unwillingness to delegate more authority. At the same time, the density of international regimes further facilitates contacts and networks among government bureaucrats and other transnational actors (Haas 1989, Risse-Kappen 1995). Thus, the growing complexity of global governance increasingly provides both a rationale and a structural basis for low key trans-governmental institutions that facilitate policy coordination and monitoring among national agencies without delegating more power to supranational authorities. Such institutions often take the form of “projects” that tackle very specifically defined problems pertaining to the inter-governmental cooperation agenda.

The narrower functional focus of trans-governmental institutions and their ability to pool the experience of interested governmental agencies and non-governmental actors allows

for better targeting of resources, more efficient sharing of information and monitoring, and resolving collective action problems among sub-state actors who are not within the purview of international institutions. Typically, trans-governmental institutions involve much less resources in comparison with inter-governmental institutions as they link existing structures. That said, it is important to recognize that in transnational institutions that involve agencies from developed and developing states, the allocation of resources from industrialized partners is often central for the establishment and effect of the institutions. In such cases, the networks take more of a star shape with a lot of linkages emanating and going back to the funding center, while trans-governmental institutions established among industrialized countries exhibit a more even networked pattern.

In their organization trans-governmental institutions thus approximate the “networked minimalism” that Keohane and Nye (2000) identify as their vision of governance in the era of globalization: “One could refer very generally to the governance structures we envisage as “networked minimalism.” Networked-because globalism is best characterized as networked, rather than as a set of hierarchies. Minimal-because governance at the global level will only be acceptable if it does not supersede national governance and if its intrusion into the autonomy of states and communities are clearly justified in terms of cooperative results.”(14) Rather than being a vision, however, trans-governmental networked institutions, I argue, are an increasingly important but understudied reality in international governance of the contemporary era. The next section focuses on a specific case, the climate change regimes, to further explore the role and structure of trans-governmental institutions.

## **Institutions for Climate Change Cooperation**

### *The climate change regime*

Climate change exemplifies a global commons problem, caused by the accumulation in the atmosphere of increasing amounts of anthropogenic emissions of green house gases (GHG), of which the most significant is carbon dioxide (CO<sub>2</sub>), but also important are methane (CH<sub>4</sub>), nitrogen oxides (NO<sub>x</sub>), chlorofluorocarbons (CFCs) and other industrial trace gases. The accumulation of these substances in the lower atmosphere traps heat (hence term greenhouse effect) and is likely to result in the increase of average global temperatures, which in turn would affect considerably the global climate system and the likelihood of extreme and unpredictable weather patterns.

Since the global atmosphere is a common resource, both the harms of climate change and the benefits of its mitigation are non-excludable: no matter where the source of GHG emissions, the changes in the global climate system are likely to affect virtually all states and societies. Addressing climate change, therefore, poses a classic problem of cooperation to resolve issues of collective action, free riding, and long-term management of a common resource. Climate cooperation is further complicated by the facts that it depends on scientific understanding of complex earth systems, and is associated with fossil fuel burning and deforestation, activities that pertain to virtually all aspects of contemporary social and economic life.

Climate change thus poses one of the biggest challenges of international cooperation and governance. Both the academic literature and press coverage on the emerging international regime for climate change typically focus on the roles of a few large nation

states in pushing forward or obstructing cooperation. The model fits nicely in the dominant state-centered perspective on international politics, the black boxes are just labeled US, EU, Japan, Russia, China, India, Brazil, Indonesia, and a few smaller but active countries. Such focus is not surprising and maybe warranted as countries that are the six largest sources of GHGs account for close to 75% of global GHG emissions (figure 2)! Developing giants such as China, India, Brazil and Indonesia are expected to rapidly increase their contributions to global GHG emissions through the process of development and industrialization associated with the use of fossil fuels and likely deforestation in tropical areas.

Getting industrialized countries to lead the way in committing to a course of action has been a major challenge for climate cooperation, so far addressed with only a limited success. The Framework Convention on Climate Change (FCCC) was negotiated in 1992 at the Earth Summit in Rio de Janeiro, despite the obstruction of the US as a key player in the international system and by far the biggest single contributor to global CO<sub>2</sub> emissions. The convention establishes a general framework that sets no specific obligations but only a non-binding objective of “return to 1990 CO<sub>2</sub> emissions” by 2000 for industrial states and procedural rules for compiling national GHG emission inventories, reporting, and meetings of the Conference of Parties (COP) following the convention’s entry into force to negotiate further obligations. The Global Environmental Facility (GEF) was established after the Rio conference as a financial mechanism to support incremental costs towards addressing global environmental objectives in developing countries including bio-diversity, ozone depletion, and climate change.

The FCCC entered into force in 1994 after 50 ratifications. The subsequent annual COP meetings culminated in the negotiation of the 1997 Kyoto Protocol to the convention.

The protocol sets binding differentiated targets for GHG emission reductions (as a percent of 1990 emissions as a base year for most countries) for industrial states for the period 2008-2012, but does not mandate reductions for developing countries for this first commitment period. The protocol also adopts three economic or “flexible” instruments – CO2 emissions trading, Joint Implementation (JI), and Clean Development Mechanism (CDM) – to ease the cost of emissions reduction in industrialized states (identified in Annex I of the Protocol) and to stimulate technology transfer to transition and developing economies. JI allows Annex I countries to receive credits toward their Kyoto commitments by investing in emission reduction projects in the territory of another Annex I state, allowing countries and companies to shop for the lowest abatement cost within the Annex I family. The CDM allows Annex I states to obtain certified emissions reductions as a result of projects undertaken in non-Annex I countries. Part of the proceeds from CDM projects is to be channeled into a fund to support administrative costs related to CDM implementation and for adaptation projects in areas of the world most vulnerable to climate variability. The Kyoto Protocol will entered into force after Russia’s ratification, which together with the EU, Japan, and Canada will satisfy the entry into force condition that ratifying countries should account for 55% of Annex I 1990 emissions.

The UNFCCC and the Kyoto Protocol are indeed the core institutions of the climate change regime. However, in parallel to these inter-governmental institutions, two other sets of publicly supported institutions have been essential elements of the international climate regime: science assessment institutions and trans-governmental institutions (table 1). These two types of institutions are typically viewed as supporting of inter-governmental climate

agreements, but at times have taken a leading and catalyzing role in facilitating both cooperation and implementation.

Of these traditionally less visible institutions in the climate regime, the role of science assessment institutions has recently been examined more systematically and with great empirical detail (Agrawala 1998, Clark and Dickson 1999, Jager and O’Riordan 1996, Rayner and Malone 1998, Mitchell et al. forthcoming). Climate change assessment institutions were initially purely transnational in nature, exemplified by the establishment of the International Geophysical Year as the first international program addressing climate change, followed by the World Climate Conference organized by the World Meteorological Organizations and UNEP in 1979, and a series of international scientific conferences and assessments held in Villach, Austria and Bellagio, Italy during the 1980s (table 1).

This institutionalization of scientific assessments and the emerging international consensus related to climate research during the 1970s and 1980s, coupled with growing public concern about climate change in industrialized countries, contributed to moving the climate issue on to the international policy agenda by the late 1980. In 1988, national governments agreed to establish the International Panel on Climate Change (IPCC) as an inter-governmental body for climate research to provide “authoritative” and consensual scientific basis for further cooperation. As O’Riordan et al. (1998) describe it: “The IPCC... was a UN-sponsored initiative, composed of scientists selected by member-state governments and intended, in part, to reassert governmental control over what was becoming an increasingly sensitive political issue”(368). But while the IPCC moved science cooperation closer to the intergovernmental realm, it has also maintained a transnational aspect in its institutional development, building horizontal networks among scientific organizations thus

increasing the involvement of scientists from developing countries and establishing subtle mechanisms that enhance the legitimacy, salience and credibility of the institution both politically and scientifically (Mitchell et al. forthcoming).

Trans-governmental institutions as elements of the global climate change regime have generated considerably less attention and research.<sup>1</sup> At the same time, as table 1 shows, trans-governmental institutions are taking a substantial space and are rapidly proliferated in the context of climate governance. In fact, the first specific, albeit informal, commitment for CO<sub>2</sub> emission reductions was made at a trans-governmental forum, the 1988 Toronto Conference (table 2). Officials, who were invited to the conference (along with scientists) in their own capacity of experts rather than official state representatives, ended the conference by adopting a statement calling for 20% CO<sub>2</sub> emissions reduction of 1987 levels by the year 2005. Those who study the history of climate politics remind us, furthermore, that this informal commitment resulted in important domestic policy change in countries such as Germany and Austria, which later took on a leadership role in inter-governmental cooperation (Jager and O'Riordan 1996).

As inter-governmental agreements were reached, trans-governmental institutions for global climate cooperation proliferated rapidly especially in the second half of the 1990s and after the 1997 Kyoto agreement (table 1). Focusing solely on inter-governmental institutions thus may miss an important political and institution-building dynamic in the climate regime that should not be discounted. The emergence of this new flank of governance structures, furthermore, raises a host of interesting questions that contemporary political science should be able to address. What stimulated the emergence of trans-governmental institutions in

climate governance? What is their function in the regime and how does it relate to activities of inter-governmental institutions and nation states? How can we assess the effect on cooperation and governance? What are the implications for understanding the contemporary international system and the challenges of governance?

A careful examination of table 1, which provides a schematic of institutional development within the climate regime, reveals that the emergence of trans-governmental institutions is closely related to the progress in inter-governmental cooperation. Trans-governmental institutions address relatively narrow governance issues pertaining to official climate agreements, often defined as technical assistance, capacity and institution building, information gathering and verification, and enhancing private investment. They are most frequently initiated by UN agencies or relevant government agencies in industrialized states and seek to establish mechanisms for better implementation of climate policies. This role of trans-governmental cooperation is quite counterintuitive and surprisingly domestic.

In climate politics, as in most other areas of cooperation, implementation requires ratification as well as considerable administrative capacity, compilation and sharing of new data, raising concern and changing the behavior of domestic actors. Conventionally, this is viewed as a domestic politics process, through which governments meet their international obligations. In reality, however, many countries do not have the capacity or political interest to undertake such implementing activities. It is therefore in the interests of bureaucracies responsible for implementation to find ways to cooperate on issues related to the domestic implementation of international requirements, and to reduce the transaction cost of policy coordination, a “niche” within which trans-governmental institutions fit perfectly.

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<sup>1</sup> The work of Betsill (2001) and Betsill and Bulkeley (2004) is an important exception, which has advanced the

Many trans-governmental institutions in the climate regime are directly targeted at enhancing the technical capacity of participating agencies and asserting their political authority domestically vis-à-vis more powerful ministries or lobbies. Others such as the US Department of Energy Country Studies Program establish rules, procedures, and capacity for collection and sharing of GHG emissions and deforestation data, which is essential for the inter-governmental process of climate cooperation, but is often undersupplied by national negotiators under the pretext of insufficient capacity. Yet other trans-governmental institutions in the climate regime target primarily the involvement and coordinated action of sub-national actors such as firms and municipalities, who do not fall in the purview of inter-governmental cooperation, but whose choices are critical for successful policy and treaty implementation.

Thus, because trans-governmental institutions reflect the interests of implementing agencies and their allies, they can paradoxically be one step ahead of official agreements in forging climate cooperation. This fact is often met with puzzlement. For example, a number of US programs establish frameworks that encourage information sharing and investment in renewable energy and energy efficiency despite the notorious reluctance of the US as a state actor to subscribe to the Kyoto agreement. This is a puzzle, however, only if the US is viewed as a black box. But if one considers the interests within the black box, then it becomes quite rational that specialized agencies and producers of carbon abating technologies will seek to advance the objectives of climate cooperation.

Trans-governmental institutions are also increasingly established as climate negotiations proceed to deal incrementally with elements of climate policies that in their

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understanding the role of city networks in climate change policies.

entirety may be too complex to address comprehensively in a single-shot international agreement. The most conspicuous examples in this respect are programs that tackle the application of carbon trading, JI and the CDM. The functioning of these market mechanisms and the realization of their benefits in terms of cost minimization and technology transfer require a host of institutional arrangements to reduce the transaction cost of implementing activities and provide mechanisms for monitoring and enforcement. Some of these institutional and information requirements include the existence of reliable GHG inventories, ability of countries and sub-state actors to prepare a portfolio of bankable abatement projects, internationally accepted procedures for baseline emissions calculation and verification of the additionality principle<sup>2</sup>, procedures for certification and monitoring of emission reductions, rules for arbitration of contractual disputes, and others (Jackson and Parkinson 2001, Michaelowa and Dutschke 2000, Mundy 2001, REC 2000, Victor 2001, Zhang and Maruyama, 2001). Minimizing these transaction costs in turn will require considerable domestic institutional and administrative capacity as well as policy coordination on very specific issues across states. In sum, as all markets, the future global GHG reduction market will have to be underpinned by a set of institutions that function both internationally and locally. Some have even argued that because the Kyoto agreement introduced the mechanisms without specifying and establishing all implementing rules, it is stillborn and necessarily doomed to failure (Victor 2001).

But it is politically naïve in a historical perspective to expect and even require that nation states will be able to agree in a single shot of negotiations on the rules and institutions to govern GHG emissions related markets. Market institutions are typically complex social

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<sup>2</sup> The principle of additionality requires that the emission reductions be additional to those that would have

and historical constructs that evolve in conjunction with markets, and good government policy can steer and speed up the process, but cannot entirely substitute for it. In Central and Eastern Europe, for example, it took (in the best cases) at least 5-7 years of concerted government effort and international support to reintroduce the institutions and principles of the well familiar capitalist market economy! How are then diplomats to negotiate within several days the appropriate institutions that will govern a brand new market and will coordinate rules across states and a variety of actors? The assumption of exclusive reliance on inter-governmental agreements and their top-down application to supply the institutional basis for compliance with flexible mechanisms in climate governance is clearly insufficient and could be outright misleading. While at the inter-governmental level, constitutional type of rules are being discussed associated with emission rights and the basic principles to elicit monitoring and compliance, private actors (such as insurance companies and trading funds), advocacy groups, and specialized agencies are beginning to establish also trans-governmental institutions, each focusing on selected contractual issues related to the application of flexible mechanisms and filling in domestic capacity gaps.

Thus, as climate cooperation expands in scope and deepens in complexity, a web of trans-governmental institutions appears to be playing a critical governance role by reducing transaction costs of cooperation and information sharing among sub-national actors and providing mechanisms that allow learning by doing in resolving complex policy and institutional dilemmas (Betsill 2001, REC 2002, REC 2002, Zhang and Maruyama 2001). Such institutions enhance transparency, information and capacity through low cost, narrowly focused networks among bureaucracies and sub-national actors, tackling issues that can not

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occurred in the absence of a JI or CDM project.

necessarily be resolved through a vertical mechanism of international governance or solely domestic action. The examples of Ecolinks and the NSS programs provide further detail on the structure and role of two quite different and yet relatively successful trans-governmental institutions in the climate regime.

### *Ecolinks*

The Ecolinks program of the US Agency for International Development (USAID) is an example of an almost virtual networked institution of transnational governance. It is an initiative of USAID's Department for Europe and New Independent States (ENI), with duration from 1998 to 2003. The program covers the countries of Eastern Europe and the Newly Independent States and four areas of environmental governance: water, waste management, climate change, and clean production. Its budget is relatively modest (between \$4.6 and \$5.4 million per year – table 2), allocated from Congressional appropriations for the agency. A little over one third of the funding is directed to climate related projects (figure 3). According to the concept document and mission statement of the program, its main objectives are to strengthen the capacity of transition countries for environmental policy making and implementation, to foster public-private partnerships and environmental investments, and to promote the position of US environmental business and technology (USAID 1998).

To achieve these objectives, the program established a horizontal institutional structure of environmental governance in the region that networks a multiplicity of agencies and actors. The horizontal structure of the initiative allowed the involvement not only of government agencies, but also of sub-national actors such as firms and municipalities, whose decision were the ultimate target of the institution. Such a structure for the “Environmental

Partnership Program,” as it was named initially, was a matter of deliberate design. The original program description points out:

The Environmental Partnership Program...will operate, as its name suggests, in a partnership mode rather than in a traditional USAID assistance framework. The key aspects of this approach will include: partnerships between institutions, public agencies and/or private firms of the ENI region and appropriate partner entities in the U.S.; partnerships between institutions, public agencies and/or firms of different countries within the ENI region; three-way partnerships involving entities of more than one country of the ENI region and U.S. entities; cost sharing arrangements involving contributions from all partners as well as from USAID, in appropriate form and proportion relative to each parent organization’s capacity to contribute”(USAID 1998, p.9).

For the implementation of Ekolinks, USAID works with a number of functionally specialized partner organizations. The Institute of International Education oversees implementation and evaluation of rules and projects in cooperation with the Regional Environmental Center for Eastern Europe (REC). The US Department of Commerce, the system of US Embassies and the Environmental Export Council are other key organizational partners especially in the technology transfer part of the initiative. DevTech Systems manages the web site and links of the program, and along with the Global Environmental Technology Foundation, the Global Technology Network, and the Environmental Information Systems and Networking Project of USAID, it provides the virtual information sharing and networking component of the initiative. The Ekolinks network within countries is established through the activism of regional and local representatives, who serve as critical nodes of communication between domestic agencies and actors. Country representatives establish linkages to business entities through business associations and chambers of commerce, directly with municipalities and associations of municipalities, with relevant government institutions, and internationally with participants in other country networks. A special effort

is placed on fostering networks, partnerships, and communication among transition countries<sup>3</sup>. Thus, the functional specialization and organizational diversity within Ecolinks is such that can be described as a form of “governance outsourcing,” reminiscent of the production and service outsourcing that became distinctive for economic organization during the last decade of the 20<sup>th</sup> century (Castells 2000).

The networked structure of Ecolinks is underpinned by the central role of Internet in its organization, as indicated even by the move from the original name Environmental Partnerships Program towards the web friendly Ecolinks. The extensive use of Internet has several important implications. It decreases the cost of organization and networking among actors involved in the institution, enhances its transparency, and strengthens local capacity to use information technology. The reliance on Internet and the networked approach of the institution also help avoid bureaucratic bottlenecks and corruption that could constitute a significant issue in traditional, hierarchically administered aid programs. The Ecolinks website ([www.ecolinks.org](http://www.ecolinks.org)) provides a complete discussion on the rules for participation, contact persons locally and in the US, application process, contacts of partners, and information about projects approved. The site also allows access to internet-based data sets that increase the capacity of participants to find information on laws, policies, partners and sources of financing. Virtually all participants in the Ecolinks program that I interview underscored the free flow of information and transparency as one of the most important characteristics of the institution<sup>4</sup>.

Ecolinks supports the objectives of capacity building, information sharing, and environmental investment in transition countries through two specific tools: the Partnership

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<sup>3</sup> Interviews with USAID Ecolinks administrators, Ecolinks technology representative in Bulgaria. Also USAID

Grants Program and the Trade and Investment Program. Within the Partnership Grants Program it awards “challenge grants” of up to \$50,000 supporting one-year projects between a local partner and a US or a regional partner<sup>5</sup>. Quick response awards in the amount of up to \$5,000 are also provided as grants to facilitate travel and direct contact between potential partners. The Trade and Investment component of Ecolinks, as its name suggests, encourages technology transfer and investment in the region, particularly of US technology and know-how. This component sometimes follows on the investment opportunities identified by a challenge grant study, on the contacts fostered through quick response awards, or other partnerships facilitated through Internet and the Ecolinks in country and international network.

A review of the Ecolinks projects (available on internet) reveals that in the course of a little over four years and with fairly limited resources, the program succeeded through its minimalist networked structure to achieve very specific results in raising local capacity, concern, the flow of information and even investment towards environmental policy objectives including climate change. It thus tackled in an incremental manner several critical issues that pertain to global climate policy and the transfer of climate friendly technology.

First, in a very targeted way, Ecolinks increased capacity for project identification and design at all levels of society in transition countries, an issue identified as an important potential hurdle for JI and CDM implementation. In the period 1999-2002, a total of 167 challenge grants were approved in 12 countries of the region (an many more project proposals submitted), of which about a third were to climate change (table 4 and figure 2). A rather fortuitous aspect of the design of Ecolinks program was the “sprinkling” of many relatively

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2001 and USAID 2002.

small grants of up to \$50,000, an amount small enough not to be diverted by expensive multinational consultancies that leave little in-country capacity after submitting a lengthy report, but large enough to become the basis of quite detailed analysis of environmental investment opportunities. Many of the successful climate-related challenge grants projects were in fact viewed as ready-made feasibility studies that could be used to seek financing related to climate mitigation. In the process of research and project formulation, such studies also tackled critical concepts for JI and CDM implementation such as baseline emissions, emission reduction certifications, additionality, trans-national contracting, and the identification of local and international institutional mechanism for coordinated verification.

Another direct effect of Ecolinks and evidence of its capacity building success is the stimulation of public and private investment in environmental (including GHG emission abatement) projects. By 2000, the second year of the program's implementation, it generated \$12.8 million<sup>6</sup> in environmental investment, by the third year (2001), \$40.9 million of investment were generated through partnership grants and addition \$50.7 through the technology transfer component (USAID 2001, p. 2). This ripple effect is continuing in 2002. Examples of investments in climate related projects stimulated by Ecolinks include: financing of the rehabilitation of small hydro power plants in Macedonia following a challenge grant study that examined rehabilitation options, a US-Czech joint venture in production and application of solar energy devises, and a loan from the Black Sea Development Bank obtained from the Municipality of Sofia (Bulgaria) on the basis of a Ecolinks-funded study and action plan for improved energy efficiency of municipal buildings.

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<sup>4</sup> Interviews with Bulgarian firms which participated in the Ecolinks program, January 2002 and July 2002.

<sup>5</sup>Note that 80% of the funded projects involved US partners.

<sup>6</sup> Figure from October 4, 2001 press release accessed via [www.ecolink.org](http://www.ecolink.org), on March 12, 2002.

Thus, one very important effect of the Ecolinks institution is that it managed to bring global concerns to local actors through networking, flow of information, and capacity building, an effect that often falls out of the reach of inter-governmental organizations. Along with other trans-governmental project, Ecolinks stimulated the political activation of municipalities in the climate issue area. In the context of the Ecolinks network, for example, many municipal leaders found that it is in their political interest to be proactive in climate policies and projects implementation not so much because of environmentalist concern about the global atmosphere, but because they saw the tight linkage between climate mitigation, opportunities to attract investment and simultaneously decrease expenditures through greater efficiency of municipal buildings and utilities. Municipal climate policies, some local leaders discovered, also provide a political opportunity to demand more fiscal independence from the central budget to operate energy and environment programs. Information about business opportunities and availability of international financing for climate abatement projects through a similar mechanism brought global concerns to the agenda of firms and businesses in both transition countries and the US. US producers of efficient and climate friendly technologies are increasingly concerned, for example, that the European leadership and US reluctance to cooperate on climate might deprive them of entrance in a particularly lucrative international market niche (Daily 2002).

In sum, through its horizontal and networked structure that afforded easy access to information and the application of clearly specified rules for capacity building and policy innovation, the Ecolinks institution increased **incrementally** local concern and interest in climate mitigation, strengthened capacity for project identification, concept definition, contracting and monitoring, and generated some flow of investment in climate friendly

activities, reducing transaction costs of climate cooperation and technology transfer well before the official adoption of firm policy commitments.

*World Bank Program of National CDM/JI Strategy Studies (NSS)*

The Program of National CDM/JI National Strategy Studies (NSS) is another example of a multilateral trans-governmental institution within the global climate change regime. The program was established in 1997 as an initiative of the State Secretariat for Economic Affairs of Switzerland and the environment department of the World Bank. After 1998, first Finland and later on Austria, Canada, Australia and Germany joined Switzerland as donors in the program. The broad objective of the NSS program is defined as capacity building to help developing and transition countries formulate strategies for the implementation of JI, and CDM provisions under the UNFCCC.

Compared to Ecolinks, the NSS program is much more tightly linked to the inter-governmental climate regime, but similarly to Ecolinks, it is an initiative of government agencies and transnational entrepreneurs rather than an outcome of formal inter-governmental agreements. Unlike Ecolinks, which is initiated by bureaucracies but targets firms and municipalities, the NSS network engages almost exclusively government agencies, and through the horizontal cooperation of such agencies seeks to establish common rules and national capacity that would support the implementation of the JI and CDM mechanisms under the Kyoto protocol. As one description of the program states: “..it encourages collaboration, dialog and the sharing of expertise across national borders and among a wide range of institutions; it provides a platform for non-Annex I experts to enter the international

arena; and it is managed in a collaborative, non-hierarchical manner”(Niederberger and Graf 2001, p. v).

The program has a total budget of approximately \$9million<sup>7</sup>, and so far has supported 8 completed national strategy studies and about 28 studies are either ongoing or under discussion or preparation. One of the distinctive characteristics of the NSS structure and rules is the emphasis on building in-country networks by establishing Interministerial Steering Committees that link all interested agencies, World Bank and donor country representatives, and national think-tanks or consultancies implementing the study. These in-country networks has two objectives. First, to increase intra-agency dialogue, interest in climate issues, and thus the leverage of the ministries of the environment, which are often leading agencies in international climate negotiations but with very limited domestic political power. In Russia, for example, the ability of the NSS network to forge inter-ministerial communication and to reach relevant actors such as RAO UES (the major electricity utility in Russia and one of the largest utilities in the world) has been cited as a unique contribution of the NSS<sup>8</sup>. Second, the functioning of the in-country network assures “country ownership”, i.e. that it is driven by national priorities rather than by a “one size fits all” model imposed by the international institutions and that it enjoys legitimacy and acceptance of all relevant agencies. Finally, the extensive involvement of specialized governmental agencies and independent experts allows the program to build on existing experience and leave capacity and concern in the country rather than with the international consultant after the completion of the project.

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<sup>7</sup> Niederberger and Graf 2001, p. 4.

<sup>8</sup> Niederberger and Graf 2001, interview with the NSS program managing director, March 2002.

This horizontal and integrative structure has been identified as one of the main strengths of the NSS institution<sup>9</sup>. Unlike hierarchical models of cooperation, the network provides a build-in a mechanism for generation of policy support and overcoming some domestic collective action problems. The in-country networks established by the NSS are, in turn, linked through Internet and regional and global conferences to the global NSS “family”, encouraging the flow of information, data comparisons, and exchange of skills related to climate negotiations and attracting climate related investments. As with most trans-governmental programs, full contact information, reports, data and conference proceedings are available on the web page of the program. According to the NSS managing director, information sharing has been particularly important and productive within geographical regions, fostering trans-national comparisons, better fine-tuning of official negotiation positions and coalition building. For example, through the NSS program leading climate negotiators of Latin American countries such as Bolivia and Colombia found it advantageous to present regional position at subsequent COPs in addition to their national positions. As a result of the program and enhanced capacity of national bureaucracies, Latin American negotiators also became more proactive in discussions of CDM rules specification and lobbied actively against hot air provisions that benefit transition countries at the expense of developing states<sup>10</sup>.

The NSS institution thus tackles a number of potentially important impediments to the implementation of the economic mechanisms endorsed by the Kyoto protocol. It facilitates policy coordination among units of government domestically. Second, it enhances locally available information about investment opportunities associated with climate cooperation,

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<sup>9</sup> Interview with the NSS program managing director, March 2002 and results from survey of participants as

helping illuminate the development opportunities (rather than costs) associated with energy technology innovation and efficiency. Third, each of the studies performed engages in great detail difficult questions associated with the institutional basis for CDM and JI implementation: additionality, contracting in JI and CDM, certification, verification, and others. The country reports outline possible procedures that would tackle these issues nationally<sup>11</sup>, while the NSS networks allows the coordination of the knowledge and institution building trans-nationally and into the official negotiations process. In sum it does strengthen national and transnational capacity to alleviate the transaction cost of cooperation and institution building and to facilitate the implementation of the Kyoto Protocol, again well before its official ratification and even before an official agreement mandated the need for capacity building cooperation. As the managing director of the NSS program pointed out: “While officials were discussing capacity building frameworks under the UNFCCC at the COPs, we were delivering, building capacity across states.<sup>12</sup>”

### **Critical Questions: Durability, Cumulative Effect, and Legitimacy**

The description of the Ecolinks and NSS institutions illuminate in detail some of the distinctive structural characteristics of trans-governmental institutions, as well as their incremental effect in enhancing information, capacity and concern across and within states. These very specific examples, however, also bring to light some critical questions pertaining to the category of trans-governmental institutions and their role in global governance.

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reported in Niederberger, and Graf 2001.

<sup>10</sup> Interview with the NSS program managing director, March 2002.

<sup>11</sup> See for example the completed studies for Slovakia, the Czech Republic, Russia cited as NSS 1998a, NSS 1998b, and NSS 1999.

The first critical issue relates precisely to the incremental impact of such institutions and its durability. It is all very well that Ecolinks stimulated over \$1 billion of environmental investments in transition states within three years and identified a host of bankable environmental projects, while the NSS helped national bureaucracies identify strategies for JI and CDM implementation. But does not this amount to trying to fill a huge hole in the boat with a little bit of bubble gum to use the metaphor of one study on the impact of aid institution (Keohane and Levy 1996)? Moreover, what will happen to the created capacity and policy activism after the funding that supports these institutions dries up? The second question is indeed a concern identified in the evaluation reviews of both Ecolinks and the NSS programs (Niederberger and Graf 2001, USAID 2002). Both programs have tried to tackle the issue of durability of impact through remarkably similar mechanisms – trying to extend the life of the institution a couple of years if possible, seeking to leave in country institutional capacity and political interest (rather than personal capacity of only a couple of consultants)<sup>13</sup>, and finally by linking the programs to other trans-national or inter-governmental institutions. For example, Ecolinks is closely linked to other initiatives such as the Municipal Energy Efficiency Network in Eastern Europe, and encourages linkage to financial institutions that could finance Ecolinks identified projects. The mid-term evaluation of the NSS program also emphasized the need to establish permanent linkages and synergies with other international and domestic programs and networks<sup>14</sup>. Leaving durable institutionalized capacity and complementing other international and trans-governmental activities are thus important design aspects of trans-governmental institutions related to their cumulative effectiveness. While a

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<sup>12</sup> Interview, March 2002.

<sup>13</sup> The mid-term review of the NSS program stressed that the institutional in-country capacity left after the study implementation is not always sufficient, and the NSS program should tackle this issue in a more targeted manner (Niederberger and Graf 2001).

single trans-governmental institution may contribute only incrementally to resolving a very specific transaction cost associated with cooperation, the cumulative contribution of the multiplicity of such institutions as well as their linkage to and support of inter-governmental commitments may provide the final push that will make the boat sail.

The question of the cumulative effect of trans-governmental institutions and their relation to other institutions is thus an important question that mandates further research. Does the multiplicity of trans-governmental institutions in the climate regime, for example, represent just a replication of effort driven by institutional interests, or is there some degree of coordination and actual cumulative effect? Does the variety of trans-governmental institutions imply creativity or chaos, or is it a form of creative chaos? Do trans-national institutions cover the regions and countries most in need, or do they perpetuate regional disparities leaving huge white spots such as Africa largely empty of trans-governmental institutional activity as a result of limited donor interest and limited connectivity? All these questions cannot be answered in a single paper but demand a research agenda that would allow both scholars and policy makers to gain a better understanding into the complex and innovative institutional components of governance regimes and design and coordinate better governance efforts.

The third critical question raised by the proliferation of trans-governmental institutions is the issue of democratic accountability and legitimacy. Are trans-government activities an example of excessive accumulation of power by runaway bureaucracies or could trans-governmental coalitions and institutionalized networks strengthen democratic governance as Slaughter (1997) has argued? Again the answer to this question may relate to institutional

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<sup>14</sup> Niederberger and Graf 2001.

design. Studies of other institutions that cross boundaries either across level of governance or across science and policy illuminate the importance of key structural characteristics such as actor participation, process of consultation and consensus building, and level of transparency as critical for the salience, perceived accountability, and resulting legitimacy of boundary-crossing institutional structures (Mitchell et al. forthcoming, Cash 2001, Agrawala, Broad and Guston 2001, Jasanoff 1987).

In the two examples described in this paper, fairly thorough public control can be exercised in donor countries over the Ecolinks and the NSS programs, but recipient country public control depends entirely on the availability of control mechanisms built in the institution such as full access to information about the activities of the institution as well as active public organizations that may have an interest to exercise control. But while these two institutions sought to engage relevant public actors (the domestic network of Ecolinks being considerably more extensive than that of the NSS program), one can easily imagine a trans-governmental institution that serves the interests of one government department and its favorite consultant, leaving little of public interest in the country. Thus, the issue of institutional design and flexibility to allow access and learning are likely to be of critical importance for the legitimacy of these structures.

Finally, one must end with the favorite of all who study trans-national relations question of state sovereignty: Do trans-governmental and other trans-national institutions that govern a host of trans-national activities represent a fundamental challenge to sovereignty as it has been argued (Rosnau 1997)? While it is possible to spend a book on this question, a laconic answer may suffice as well. This paper has presented the case of trans-governmental institutions as one part of complex governance regimes. I have demonstrated through the

example of climate change that trans-governmental institutions add to available forms of governance but do not necessarily substitute for existing institutional forms. Trans-governmental institutions thus exist in a dialogue with other principles of governance such as sovereignty, democracy, and hierarchical organizations, rather than in a necessary conflict with established institutions.

### **Conclusion**

In an era of globalization, conceived as a growing density of networks of interdependence, communication and influence, trans-national relations increasingly draw the attention of those studying politics, society, information technology and economic organization. In the political science literature, students of environmental, human rights, and economic cooperation have so far pioneered the way in analyzing transnational phenomena. This paper adds to the trend by illuminating through the example of climate change the role of trans-governmental institutions, defined as rules, norms and principles of behavior established horizontally by units of governments, in global governance. It also sets the theoretical foundation for a broader research agenda that should seek to define and measure the cumulative significance of such institutions in global politics.

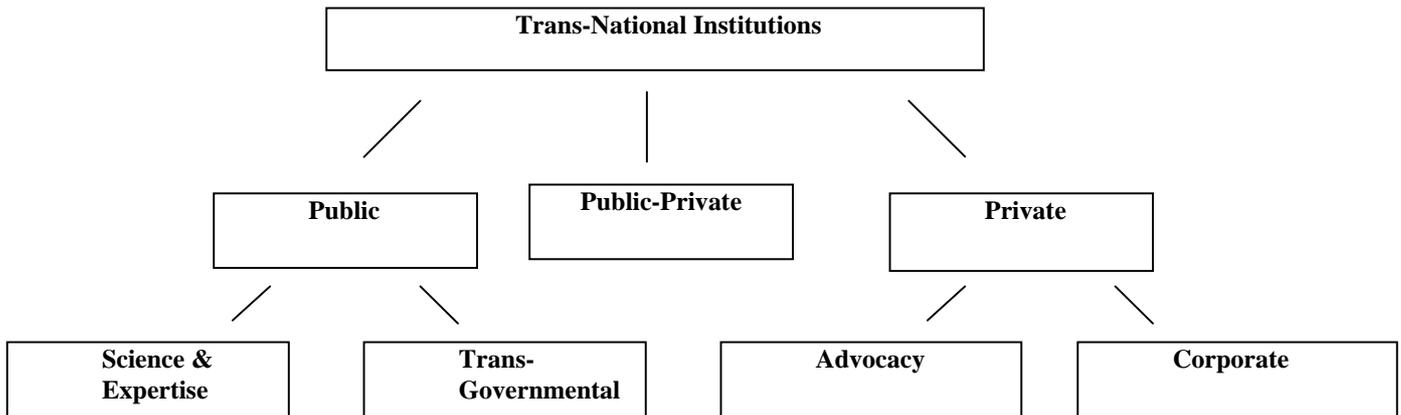
The analysis demonstrates that trans-governmental institutions can tackle quite effectively, although without much visibility, difficult issues of international governance that transcend boundaries, but could be too complex to resolve through comprehensive international agreements and their top down application. Trans-governmental and other trans-national institutions have several functional advantages that allow them to make a low-cost

governance impact through horizontal mechanisms that reach directly and deeply across societies and governance bodies. Such forms can thus respond more effectively to modern governance dilemmas with spillover effects that escape established organization hierarchies.

Until recently, the political science literature has considered such political spillover effect and transnational trends largely a matter of “low politics:” environment, human rights, and in the “best case” political economy. However, the New York attacks of September 11, 2001 showed with a crushing force that security affairs are far from immune to activities of transnational actors, and that security specialists might have a lot to learn from their “low politics” colleagues. The ability of societies and the international community to respond not only to transnational threats but to the full range of policy issues that involve transnational spillovers may critically depend on examining in earnest the variety of institutional forms available for international and trans-national governance in the 21st century.

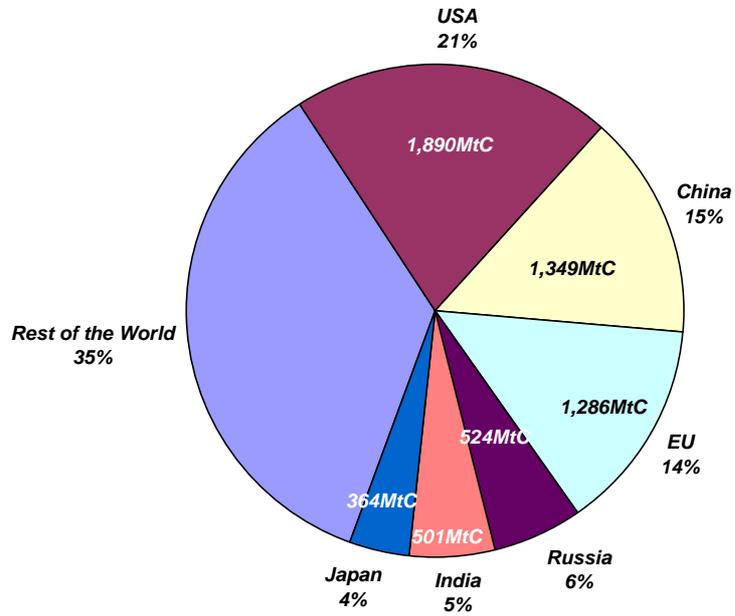
Tables and graphs:

**Figure 1. Typology of trans-national institutions**



**Figure 2. Top Contributors to Global Greenhouse Gas Emissions.**

Total 2000 emission of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFC, and SF<sub>6</sub>, in Million Tons of Carbon Equivalent (MtC), and percentage of world total.



Source: Climate Analysis Indicators Tool from the World Resources Institute.

Table 1. Institutions in the climate change regime

Year Decade	Science Assessment Institutions	Inter-governmental Institutions	Trans-governmental Institutions
1970-79	First World Climate Conference (1979)		
1980-1989	Villach Conferences (1980, 1983, 1985) Advisory Group on GHG (Villach 1987 Bellagio) World Conference on Changing Atmosphere (1988)		World Conference on Changing Atmosphere, Toronto, 1988
1990-1995	<b>IPPC (1988)</b> IPPC First Assessment (1990) START	<b>Framework Convention on Climate Change (FCCC 1992)</b> Global Environmental Facility (GEF, 1992)	*DOE Northwest National Laboratory Energy Efficiency Centers Program (1990 or 1992) *US DOE Country Studies Program (1993) *Cities for Climate Protection (1993)
1995-2002	IPPC Second Assessment (1995/96)	Conference of Parties (1995-2002) <b>Kyoto Protocol to the FCCC (1997)</b>	*Activities Implemented Jointly (1995) *Climate Technology Initiative (1995) <b>*World Bank National Strategies Studies Program for JI and CDM Implementation (1997)</b> *GEF Prototype Carbon Fund (1999)
	IPCC Third Assessment 2001	<b>Earth Summit, Johannesburg (2002)</b>	*OECD Program on Climate Change, Energy and Transport *REC/WRI Capacity for Climate Protection in CEE *Johannesburg Renewable Energy Coalition *Asia Development Bank (ADB) Least Cost Greenhouse Gas Abatement Strategy *ADB Capacity building for implementation of Kyoto mechanisms (1999) *ADB Regional Technical Assistance for the Promotion of Renewable Energy, E. Efficiency and GHG Abt.(2001) *USAID Municipal Energy Efficiency Project <b>*USAID Ecolinks (1998)</b> *Carboncredits.nl of Netherlands *Canadian Cooperation Fund for GHG mitigation

Sources: Jager and O'Riordan 1996 on science-and-information institutions, Zhang and Maruyama 2001 and web research on trans-governmental institutions. Note that the table does not include a complete list of science-and-information and trans-governmental institutions established post 1995, but only the most visible ones.

**Table 2. Ecolinks budget**

Year	Budget (million USD)
1998	4.6
1999	6.5
2000	4.3
2001	5.4

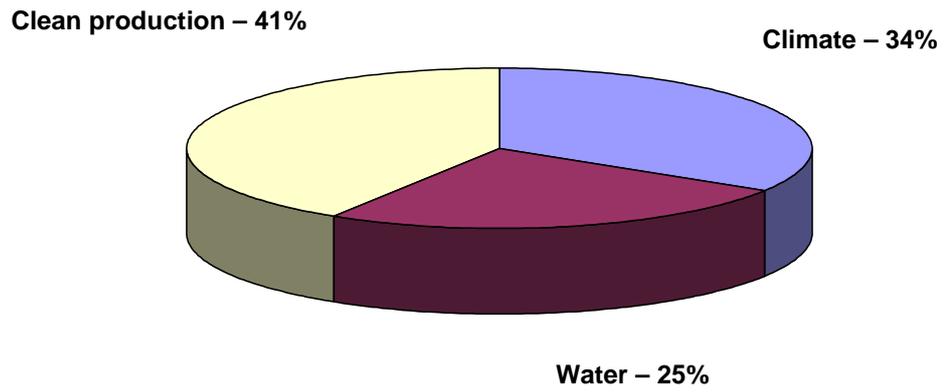
Source: Communication with USIAD administrators of Ecolinks.

**Table 3. Ecolinks challenge grants awarded, 1999-2001**

Country	Number of grants	Number of quick response awards
Bosnia & Herzegovina	2	
Bulgaria	36	33
Croatia	11	10
Czech Republic		10
Estonia	2	1
Georgia		1
FYR Macedonia	13	16
Hungary	3	14
Kazakhstan	10	17
Latvia		1
Lithuania		5
Moldova		1
Poland	2	18
Romania	44	26
Russia Far East	12	27
Slovakia	7	4
Ukraine	23	13
Total number of grants	165	306
Total value of grants	\$7.8million	\$1.295million

Source: USAID 2001, p.5-6 and USAID 2002, p. 2-3.

**Figure 3. Share of climate change related projects in 2001 Ecolinks challenge grants.**



Source: USAID 2002.

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This study examines climate change governance and action in South Africa through a multi-level governance perspective with a topical focus on financing local climate action and governing arrangements that facilitate or hinder the flow of substantive, stable funding to the sub-national level. The following questions guided the study Multi-Level Climate Governance Supporting Local Action. Instruments enhancing climate change mitigation and adaptation at the local level. As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development. The project "Climate Policy Meets Urban Development" is financed by the International Climate Initiative (IKI). Multi-level, multi-stakeholder and multi-nodal governance processes of planning and policy-making that occurs across and within various levels of government (Horak and Young, 2012). Given the localized nature of climate change impacts, multi-level governance policy and planning architectures that can contribute to both "hard" and "soft" adaptive capacities ultimately can contribute to climate change adaptation and resiliency at the local level. Multi-level adaptation governance is an integral component to advancing adaptation through governance structures and institutions, and requires cross-scale collaborative efforts to address complex issues of climate change risk occurring at the local scale (Abunnasr et al., 2013). Keywords: Multi-level governance Climate change Land use Policy networks Brazil Indonesia.

**ABSTRACT.** Although research on multi-level governance (MLG) of climate change has increased in recent years, we do not understand well how power impacts the integration of policy decision-making processes across levels of governance (Doherty and Schroeder, 2011; Gupta, 2014; Marquardt, 2017). In particular, the MLG literature has focused on national-supranational relations, while national-subnational. networking remains less explored (but see Jörnigke and Quitzow, 2017; Velazquez Gomar et al., 2014).

**3.1. The case studies.** Brazil and Indonesia are good cases for investigating power in the MLG of climate change in the land use sector. While the two countries. 66. Multi-level governance "the interaction between institutions, levels of government, civil society and the private sector" determines how public policy and/or actions towards climate change action are defined, implemented and monitored. It is essential for bottom-up planning and decision-making that addresses local priorities and needs, as it helps to align local strategies and actions with national and international goals and commitments. That's the case both for climate change adaptation and for mitigation "the focus of this article. Chile's Intended Nationally Determined Contribution (submitted to the UNFCCC in 2015) opens with the bold statement that "Chile has positioned itself in the international arena as a country that seeks to support strong climate action".