GLOBAL AND DOMESTIC ACTORS WITHIN THE GLOBAL CLIMATE CHANGE REGIME: Toward a Theory of the Global Environmental System[1]

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Abstract:

This paper presents the theory of the global environmental system to explain the different climate change regimes emerging from advanced industrialized nations. Using data collected regarding the formation of domestic climate change regimes in the United States, Japan, and the Netherlands, the specifics of the theory are outlined. I begin by analyzing the expectations of some of the more prominent sociological theories about the society-environment relationship in the advanced world finding that they do not explain the disparate responses to the regulation of greenhouse gases in these countries. The theory of the global environmental system is proposed as an alternative to the rather extreme expectations of the sociological literature on society/environment relationships. Through this proposed theory, we can better understand successful cases of global climate change regimes within the context of the interrelations among domestic and international actors.

Introduction

In July 2001, the future of the international agreement to mitigate global warming—the Kyoto Protocol—was uncertain: President George W. Bush had announced that the United States would not be a party to the ratification of the treaty; Prime Minister Junichiro Koizumi had suggested that without the United States, the Japanese government might not consider ratification; and without Japanese ratification, the Protocol would likely not have enough countries signed-on to account for the requisite 55% of the Annex I countries' carbon dioxide emissions that was needed to bring the climate change treaty into legal force[2]. On the third day of the second part of the Conference of the Parties-6 climate change negotiations in Bonn, Japanese Environment Minister Yoriko Kawaguchi stated:

> Japan will exert its utmost efforts to make it possible for many countries, including Japan, to conclude the Protocol. Aiming at the entry into force of the Kyoto Protocol by 2002....In order to pursue effective measures against global warming, it is important that all countries act under one single rule....To have the U.S. participation for the early entry into force of the Kyoto Protocol is by far the best scenario (Kawaguchi 2001a).

This statement did nothing to assuage fears that, after almost ten years of negotiations leading up to a legally binding agreement, the Kyoto Protocol would fail to become an environmental treaty and all of the work would have been in vain. Even high-ranking members of international organizations such as the Intergovernmental Panel on Climate Change (IPCC) expected that, in the words of Taka Hiraishi, the co-chair of the IPCC Task Force on National Greenhouse Gas Inventories, the meeting in Bonn would mark the end of the Kyoto Protocol—and the next round of negotiations, scheduled for Fall 2001 in Marrakech, would serve as a "post-mortem" (interview with author, Hiraishi, 18 July 2001). The European Union, however, was on a "rescue operation of the Kyoto Protocol," as EU delegation spokesperson, Margot Wallerström said: "we do not have any alternatives" (Wallerström 2001). High-level negotiating teams representing all major economic powers except the United States then plunged into negotiations to try to come up with an acceptable final text regarding the mechanisms through which the emission reductions stipulated in the Kyoto Protocol would be met (for a full discussion of the Kyoto mechanisms under discussion in the COP-6 round of negotiations see Kopp 2001; see also Müller 2001). The day after these high-level meetings were scheduled to end, and after almost forty-eight hours of non-stop negotiations, representatives from 178 nations around the world agreed to the Bonn Agreement, "designed to finalise the text of the Kyoto Protocol and to strengthen the implementation of the UN Framework Convention on Climate Change" (Müller 2001: 1).

Although social movement organizations and representatives of some nations criticized the final agreement for being, in the words of a Greenpeace press statement, "Kyoto-Lite," many members of delegations and organizations involved in the negotiations applauded the

compromise that made the agreement possible. Even as countries were discussing plans to move forward and ratify the Protocol, thereby bringing into legal force the international treaty to mitigate global climate change, Paula Dobriansky, the U.S. Under Secretary of State for Global Affairs, continued to push the American position against the Protocol. During the final plenary session of the ministerial meeting in Bonn, Dobriansky stated that "the United States must emphasize that our not blocking consensus on the adoption of these Kyoto Protocol rules does not change our view that the Protocol is not sound policy" (as quoted in Raab 2001: 5). With the Kyoto Protocol moving into the domestic ratification stage, all advanced nations except for the United States continued to be parties to it, developing state and market tools to restrain national emissions and preparing for the treaty's ratification.

Almost two years later, the Kyoto Protocol has been ratified by 108 nations, including enough developed countries to represent 43.9% of the carbon dioxide emissions in the developed world[3]. Once Russia, which has orally committed to ratifying the treaty in 2003, votes on the treaty, it will enter into legal force without the United States. In the words of Joke Waller-Hunter, as stated in a press release by the climate change Secretariat, "Most industrialized countries are now on board and have cemented their commitment to reversing the historical rise in greenhouse gas emissions that started with the Industrial Revolution" (UNFCCC Secretariat 2002).

The continuing events in the development of this legally binding climate change treaty provide data regarding a very important theoretical and empirical question for environmental sociology: What characteristics of advanced capitalist states best explain their levels of support for international regimes to protect the environment? In this paper, I explore one particularly prominent issue—global climate change—in the effort to answer this broad question. Quantitative analysis of characteristics of the member-nations of the Organization for Economic Cooperation and Development show that, although environmental protection is possible through measures of ecological efficiency, the *variations across* industrialized nations—rather than the commonalities across those nations—provide the lion's share of ex-

plained variance in CO_2 emission levels (Fisher and Freudenburg 2002). Thus, I include results from case studies on three countries that represent particularly important cases in the global climate change debate to examine more closely the dissimilar domestic responses of these nation-states to the potential regulation of an environmental good through an international treaty: the Kyoto Protocol.

Although the differences among the responses to the Protocol were initially scarcely visible on the international level in 1997, when the original text of the treaty was drafted, those differences had become very clear by the time the final text of the Bonn Agreement was approved in 2001. I shall argue that, in contrast to the processes of explanation used by the currently prominent theories of society-environmental relationships, the outcomes of international environmental policy-making should be analyzed through an integrative process that focuses on the nation-state level, paying special attention to national contexts and to developments on the national level that affect the states' positions within international negotiations, and the characteristics of the international climate change regime itself. As will be discussed in further detail in the pages that follow, existing theories of society-environment relationships prove inadequate for explaining what has happened to the Kyoto Protocol since it was agreed upon by states in Kyoto in 1997. Instead, an adequate understanding of the present evolution in the global climate change regime demands a full consideration of the roles of science, industry, civil society, the state, and international actors.

Although much of the past research has addressed one or more of these social actors, none explicitly examines the *interrelation* of the collection of these forces. My research suggests that a broader orientation is required. The concept of *the global environmental system*, which will be described in detail in this paper, provides a framework for beginning to articulate the complex interrelations involved in the current challenges to the global governance of the environment posed by the domestic interests of nation-states. This paper provides both empirical elaboration and theoretical development of this framework, specifying the ways in which the relationships among national and

global actors are set within the context of the continual interaction of science, government, corporate, and citizen forces. It is important to note that, although this paper includes data from these case studies to provide empirical evidence, the overall purpose of this paper is to sketch out the theory of the global environmental system.

This paper is separated into three sections. I begin by outlining the extant theories of society-environment relationships and how they explain environmental policy outcomes. Next, using the results from the case studies, I describe the ways in which domestic actors have challenged the emergence of the international environmental regime for global climate change. Third, I summarize the *global environmental system* and how it better explains the political outcomes of the global climate change regime by incorporating the interrelations among domestic actors involved in national debates about the regulation of the environment, interacting with international organizations and other nation-states. Included in this section are suggestions for fruitful research directions in the future.

Domestic Actors and Society-Environment Relationships

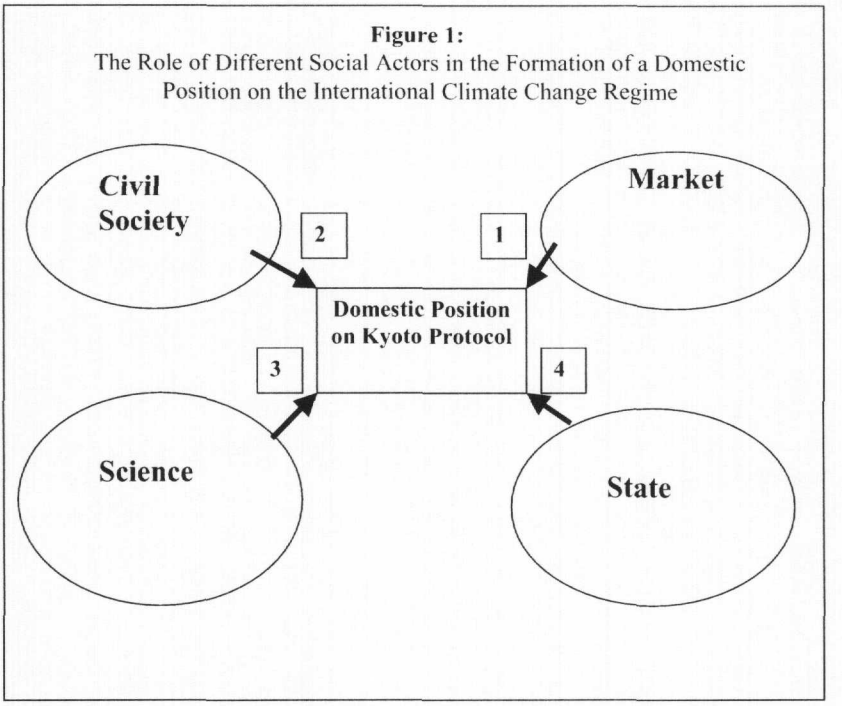
The relevant social-scientific theories of society-environment relationships can be grouped into two major schools: traditional environmental sociology and the environmental state. It is important to note that recent sociological work has handled the potential implications of constraints to society's consumption of environmental goods and emissions of environmental bads under the conditions of advanced modernity in starkly different ways. On the one hand is research that is mostly European in origin, often categorized as being within political sociology, that includes an important commonality across three main branches of work, namely: reflexive modernization, ecological modernization, and post-materialism. All three branches involve an expectation of the emergence of an "environmental state" (see e.g. Buttel 2000a; Frank et al. 2000a, 2000b; see also Goldman 2001) — the view that advanced or industrialized nation-states will include environmental protection "as a basic state responsibility" (Frank et al. 2000b: 96), with the state at least implicitly having enough autonomy or ca-

pacity to carry out such a responsibility. On the other hand, a second body of work—the generally U.S.-based research on "environmental sociology" that has been accumulating over the past several decades—has virtually the opposite expectations, looking rather pessimistically on environmental reform. Much of the mainstream theoretical environmental sociology tends to consider environmental problems to be a relatively direct consequence, or at least a clear correlate, of industrialization and capitalist accumulation.

In large part, the differences between what I call the "environmental state" versus the "environmental sociology" lines of thought can be traced to these starkly differing expectations about the nature of the relationship between state regulation and the economy. Much of the recent work on the environmental state reflects the view that, in the words of Anthony Giddens, environmental protection is "a source of economic growth rather than its opposite" (Giddens 1998:19). This optimism about the economy, in turn, reflects the tendency of this newer work to concur with the differences that theorists such as Habermas (1970, 1975) have seen between "liberal" and "advanced" stages of capitalism: a change in the relationship between the economy and the state. The newer work, in other words, tends to share Habermas's view that "the continuing tendency toward disturbance of capitalist [economic] growth can be administratively processed and transferred, by stages, through the political and into the socio-cultural system" (1975:40). In the more concise assessment provided by McCarthy (1978:363), this change means that the economy "no longer has the degree of autonomy" that it once had.

Figure 1 presents a simple model of the roles of domestic actors in the formation of a domestic climate change regime. As the diagram illustrates, there are four major social actors that can be involved in determining a nation-state's position on an international environmental agreement such as the Kyoto Protocol: the state, the market, science and civil society. The four arrows represent the fact that these social actors have been expected to affect policy outcomes within the various literatures on society-environment relationships.

Figure 1:
The Role of Different Social Actors in the Formation of a Domestic Position on the International Climate Change Regime



The relationship denoted by Number 1 depicts a market-led approach to determining policy outcomes. This hierarchy reflects the relationship that is represented by much of what I call the environmental sociology literature (e.g. Dunlap and Van Liere 1978, 1984; Catton 1982; O'Connor 1991; Foster 1992; Schnaiberg and Gould 1994). In other words, important authors within the earlier body of work on environmental sociology, for example, have posited a need to stop the expansion of capitalism and/or the processes of industrialization to avoid the "overshooting" of global carrying capacity (see e.g. Catton 1980), or to avoid the collapse of economic activity that would otherwise result from the self-exhausting tendencies of a "treadmill of production" (see e.g. Schnaiberg 1980; Schnaiberg and Gould 1994) or of "the second contradiction of capitalism" (see e.g. O'Connor 1991; Foster 1992).

The connection indicated by Number 2 shows a citizen-led approach to policy outcomes. This permutation is consistent with the expectations of both the reflexive modernization[4] and the post-materialism schools of the environmental state literature. Scholars of reflexive modernization (Beck 1987, 1995, 1997; Beck et al. 1994) tend to focus on citizens mobilizing in response to extreme environmental problems. Scholars of the post-materialism school (Abramson 1997; Brechin and Kempton 1994, 1997; Dunlap and Mertig 1997; Inglehart 1990, 1995; Kidd and Lee 1997a, 1997b; Pierce 1997), in contrast, explore changes in individuals' worldviews to understand environmental behavior. In other words, although scholars within these theoretical traditions cite different mechanisms as driving reflexive modernization and post-materialism, they both look towards the citizenry to stimulate social change.

Perhaps ecological modernization is the only one of the theories of society-environment relationships included in this paper that explicitly discusses the interaction among social actors. In particular, scholars working within ecological modernization tend to expect actors within the state, science and economic sectors—numbers one, three and four—to work together in a top-down fashion to bring about policy outcomes (Blühdorn 2000; Buttel 2000b, 2000c; Christoff 1996; Cohen 2000; Fisher and Freudenburg 2001; Hajer 1995; Huber 1985; Leroy and van Tatenhove 2000; Mol 1995, 1997, 1999, 2000a, 2000b; Mol and Sonnefeld 2000; Mol and Spaargaren 1993, 2000; Spaargaren 1997, 2000; Spaargaren and Mol 1992; Spaargaren and van Vliet 2000). The theory does not overlook the role of civil society, nor the role of social movement organizations such as non-governmental organizations (NGOs) (see for example Mol 2000a), but it generally looks to "modern institutions such as science and technology and state intervention" to lead the way (Mol and Spaargaren 1993: 454-455).

Although all of these theories significantly contribute to our overall understanding of society-environment relationships, they do not sufficiently explain the interactions among social actors involved in policy decisions regarding such international environmental issues as global climate change. Each of the cases of domestic climate change

regime formation, in fact, include characteristics that are similar to the expectations of these theories, but none of the theories adequately explain the complexity of these countries' domestic positions on the regulation of global climate change nor do they explain why responses to the Kyoto Protocol have been so different among post industrial states.

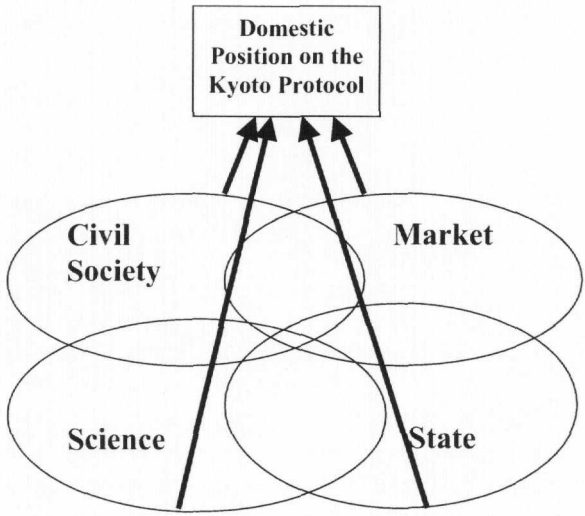
In addition, theories within these schools of thought have very little to say about the interrelation between the domestic and international levels that recently has become the norm in dealing with many environmental issues through such policy mechanisms as international environmental treaties. Thus, existing theories of society-environment relationships, unfortunately, prove inadequate for explaining the complex interrelations of social actors involved in the tensions between domestic decisions and international environmental policy-making. None of the theories adequately explain the complexity of countries' domestic positions on the regulation of global environmental problems, nor do they explain why national responses to international environmental policy-making may differ.

Domestic Actors within the Global Environmental System

Depending on the specific configurations of social sectors in each nation-state, different actors drive the decision-making process regarding the state's national position in international environmental negotiations, as well as the domestic responses to an environmental treaty. To restate, an adequate understanding of the relationship between domestic actors and international environmental political outcomes demands a full consideration of the roles of science, industry, civil society, and the state, and the interactions among them. Figure 2 portrays a model of the interactions among domestic actors in the formation of national positions regarding international environmental policies. As can be seen by the overlapping sections, this figure highlights the interrelations between relevant actors and points to the fact that the configuration of each domestic regime is important. In other words, domestic actors involved in the formation of each country's respective environmental regimes work in collaboration and, on some occasions, in con-

flict with one another: it is the interaction among the social actors in each nation-state that explains the variable political responses to international environmental policy-making. Although figure 2 may be perceived as suggesting a hierarchical relationship among these actors, it is not my intention. Rather, this diagram is meant to suggest an even plane from which all social actors exert their interests. It is important to note, however, that frequently different social actors have different capacities.

FIGURE 2: Domestic Actors within the Global Environmental System



Within the case studies of the United States, Japan, and the Netherlands, there are many similarities and differences between the characteristics of and relationships among the various social actors. Table 3 presents the Climate Change Regime Matrix that shows the similarities and differences among these climate change regimes.

TABLE 3: Climate Change Regime Matrix

Country	IV1: State	IV2: Science	IV3: Market	IV4: Civil Society	DV1: Political Outcome	DV2: Material Outcome *
Japan	Strong	Central	Collaborative	External-local	Ratify	Increase 7.6% since 1997
Netherlands	Medium	Middle	Autonomous	Internal	Ratify	Increase 9.3% since 1997
United States	Weak	Peripheral	Autonomous	External-national	Nothing	Increase 11.7% since 1997

*Measures of Emission reductions are calculated from the most recent CO2 emission inventories (1998) that are published by the International Energy Agency (2000).

Given that the ratification of an international treaty is the responsibility of the national government, it is impossible to understand any nation's position on the Kyoto Protocol without looking at the role of the state. Building off of Skocpol's work on the autonomy of the state (in Evans et al. 1985), I classify states as being strong or weak depending on their independence and effectiveness in implementing official actions. For the sake of this study, I am specifically looking at each state's relative strength or weakness in unilaterally implementing climate change policies, even though these states may be stronger or weaker in another policy domain. Each of the three countries presented here provide cases of states with different levels of power: In Japan, the state is strong; in the United States, the state is weak; and in the Netherlands, the strength of the state is intermediate.

The characteristics of the nation-state are very important to keep in mind, in that the strength of the state determines its level of autonomy in contrast to other social actors (see e.g. Evans et al. 1985). For example, as a result of the Japanese state's strength, the government is able to shape its position on the Kyoto Protocol relatively unilaterally.

Implementing measures to mitigate global climate change, therefore, can happen rather quickly. The U.S. state, in contrast, is so fragmented that, throughout much of the nine years during which the United States was involved in the negotiations for the Kyoto Protoco. The administrative and legislative branches of the government actively disagreed about what the U.S. position on the Kyoto Protocol should be (for a full discussion, see Fisher 2001). Even during the brief period that the Senate shifted to a Democratic leadership, from 2001-2002, and the Senate began to push for re-engagement in the international climate change negotiations, the Bush Administration refused. In addition to the fragmentation of the U.S. government, members of the state have a very difficult time making decisions without the support of other social sectors, such as industry or civil society.

The relationship of economic actors to other social actors and to the overall political outcomes of the domestic position on the Kyoto Protocol is different in each nation-state: in some cases, the relationship is collaborative, and in others, it is autonomous. As can be seen by the case studies, the two countries that have relatively autonomous market sectors—the Netherlands and the United States—have had opposite responses to the Kyoto Protocol. The key factor, accordingly, may have less to do with the degree of autonomy of the market sectors than with its specific material composition. The energy sector of the United States depends heavily on coal; driven in part by the specific interests that derive from this fact, and powerful economic actors have worked through conservative non-profit organizations to limit the U.S. involvement in the Kyoto Protocol (see e.g. McCright and Dunlap 2001). To date, the Bush Administration continues to push the U.S. government to be one of the few countries that will respond to energy needs by increasing levels of resource extraction rather than implementing efficiency standards and practices. In the Netherlands, however, industry plays an altogether different role, leading the way in pushing to invest in the research and development of alternative technologies. Taking advantage of their connection to the Dutch State and their access to a relatively clean energy supply in the country's natural gas reserves, many different types of industries in the Netherlands

have pushed to create an almost protectionist market for trying out alternative technologies while avoiding regulation.

Similar to the case of those countries with autonomous market sectors, the two countries in which civil society has been external to the domestic decision-making process—Japan and the United States—have also had opposite responses to the Protocol. In Japan, although civil society is external and locally based, the state, market and science sectors have been working together to devise a progressive domestic climate change regime. It is likely that the political outcomes that we see in Japan are only possible as a result of the strong Japanese state that mediates the roles of and between other social actors. The United States is completely different. With its weak state and a civil society sector that is external to the climate change policy-making process, some members of the government have actually blamed the failure of the climate change regime on what they call "rabid environmentalists" (interview with author, Senate Staff, 2001). Others, however, say that without civil society pressuring the U.S. government, climate change policy cannot happen. In the Netherlands, in contrast, civil society has been internal to the policy-making process. Citizens have voluntarily chosen to pay more for their electricity to power their homes with a source that emits fewer greenhouse gases.

The role played by science in domestic climate change regime formation in these nation-states is less direct than that of the state, the market or civil society. In fact, the cases of Japan, the Netherlands, and the United States demonstrate the range of science's engagement with the policymaking process—from relatively central to relatively peripheral. The most central of the cases—Japan—has seen the fewest questions regarding the validity of the science of climate change. In contrast to the Netherlands, where there is an imposed distance between scientists and policy-makers, Japanese scientists frequently hold government positions and they advise and socialize in the same social networks. It is probable that the centrality of the scientific community in Japan contributes to the fact that the science of the issue of climate change has been less challenged there than in either the Netherlands or the United States. In the United States, in particular, scien-

tific uncertainty has become a weapon that has been successfully wielded by conservative non-profit organizations. Although the role that scientists are playing in the policy-making process is significant, the variable itself does not seem to be enough to explain the differences among these countries. In the words of Robert T. Watson, the former chair of the Intergovernmental Panel on Climate Change (IPCC), the centrality of science is a "necessary but not sufficient" precursor to the formation of an effective domestic climate change regime; it is "only one small input" (interview with author, 23 July 2001).

As can be seen by the depth of the interactions among various social actors within each nation-state, each social actor's position in relation to the others are important. When seeking to understand each country's domestic position on the Kyoto Protocol, accordingly, it is necessary to look at the interrelations between the state, market, civil society, and science in each country. As Habermas has stressed in his work, various social actors play central roles in maintaining legitimacy and control over advanced-capitalist states (see e.g. Habermas 1975). Throughout the years, Habermas has looked at the role of socio-cultural variables outside of the state and the market such as civil society (Habermas 1989, 1992, 1998; see also, Calhoun 1992), and science and technology (Habermas 1970). As suggested in Habermas's work, I have found that understanding the formation of a global climate change regime requires an appreciation of the roles of social actors within each nation and the role they play in affecting the global environmental system. Without looking at these actors, it is impossible to understand the complexity of what is driving the formation of a state's climate change regime and thus, the international climate change regime itself.

Beyond these social actors, another type of socio-cultural variable played a significant role in each country's decision regarding climate change: the political culture of the country. Although Japan and the Netherlands are very different countries, they both have a tradition of collaboration—whether it be through an ancient notion of *wa* [harmony] in Japan, or through the Polder Model in the Netherlands. At the

same time, certain aspects of American political culture, such as individualism, free enterprise, and private rights have been capitalized upon by conservative non-profit organizations that are working to protect the interests of industries involved in the energy infrastructure in the United States.

The Global Environmental System

Although it is necessary to look at the interrelations among domestic social actors to understand a country's position on the Kyoto Protocol, it is also important to conceptualize these relationships within a broader global environmental system, because otherwise, important aspects of the global climate change regime will be missed. To understand fully the political outcomes of each case, it is necessary to recognize that, although I have looked at each nation as a separate and comparable case, these countries are all part of an interactive global system. Perhaps McMichael best summarizes the relationships between cases when he says that "Outcomes…may *appear* individually as self-evident units of analysis, but in reality are interconnected processes" (emphasis in original, 1990: 396). In other words, the American, Japanese, and Dutch positions on the Kyoto Protocol have been decided, not just through the mediation of interrelated domestic actors, but also through each country's interactions with other Parties and international organizations working on the Protocol. Finally, each country's position on the Kyoto Protocol was also determined by each nation's history and position within the global system in terms of its economic, political, and environmental characteristics.

It is likely that Japan, for example, only signed on to the agreement in Bonn due to international pressure from European and other countries, as well as the carbon sink concessions granted by the EU during the Bonn round of negotiations. By the end of the ministerial level negotiations in Bonn, in fact, Japanese environment minister Kawaguchi announced: "Today's agreement is a viable step towards the entry into force of the Kyoto Protocol by 2002" (Kawaguchi 2001b). As a nation that continues to be mired in an economic recession, the re-

sults of this meeting show that Japan is not in a position to isolate itself politically from its allies.

On the other side of the international coercion was the Netherlands, which was attributed with successfully pressuring other members of the EU to push for higher emission reductions in the original text of the Kyoto Protocol (Gummer and Moreland 2000). In Japan and the Netherlands, international actors worked in concert with domestic actors to affect the countries' decisions regarding their support of an international climate change regime.

The United States, in contrast, was only able to remove itself from the climate change regime after almost nine years of negotiation because of its position in the global system as a political and economic leader. The United States, which has emerged as the unilateral global leader since the fall of the Soviet Union in 1991, no longer seems particularly sensitive to global criticism. During the Clinton Administration, even though many domestic actors did not support participation in the climate change negotiations, the Administration seems to have tried very hard to avoid international criticism regarding its environmental policy. With the shift to the Bush Administration, the U.S. began to pull out of number of international regimes, including the Kyoto Protocol, expressing its ability to change its mind unilaterally—a luxury of the reigning global economic and political leader. It is important to note that, had the Presidential election been resolved differently, Albert Gore would have won the U.S. Presidency and the American position on the Kyoto Protocol would have likely been very different.

Figure 4 provides a graphical depiction of the global environmental system. The figure illustrates the relationships among the international and domestic actors involved in the decisions regarding the future of the Kyoto Protocol. The interactions among global actors, domestic actors, and international organizations, implicit to the global environmental system, provide more complexity to our understanding of international decision-making about environmental and other social issues within an increasingly globalized world. Thus, by looking at the global climate change regime through the lens of the global environ-

mental system, we can see how domestic politics have serious global implications. Consistent with the arguments put forth in the work on the two-level game (Putnam 1988) and double edged diplomacy (Evans et al 1993), what happens inside nation-states in response to international political issues is important. In contrast to the claims of many scholars working within the field of international relations, what happens inside nation-states is becoming increasingly more important rather than less.

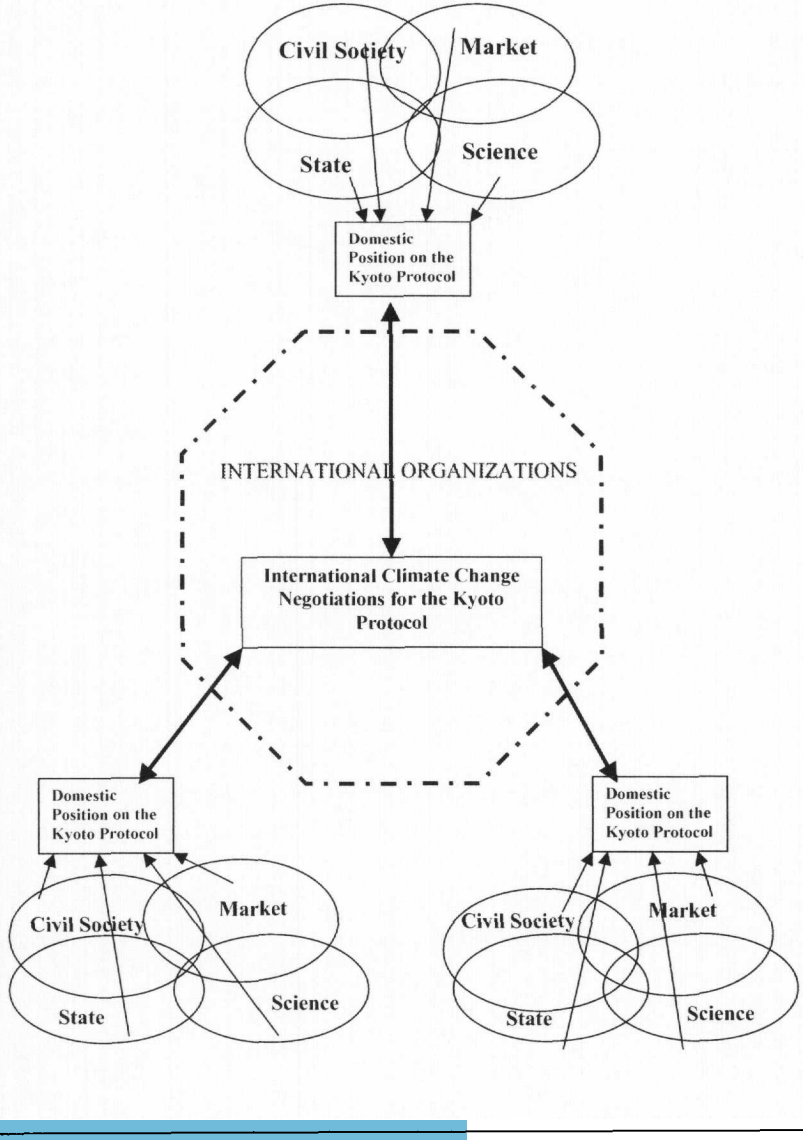
As Jan Pronk, the Environment Minister of the Netherlands and the President of the COP-6 negotiations, concluded during the final plenary session of the ministerial meeting in Bonn: the outcome of the COP-6bis meetings prove that "Multinational negotiations within the context of the United Nations do make sense…it is possible for negotiations to agree….Globalization is meeting so much criticism…it is important to show that global concerns…can be responded to with global responsibility" (Pronk 2001). Although the United States pulled out of the regime, the globalization of environmental regulations continues.

Conclusion

Now that the Kyoto Protocol will enter into legal force in the near future, it is clear that most countries followed through with their initial commitments. The most interesting aspect of the global climate change regime, however, will be whether it achieves its material goals of reducing greenhouse gas emissions. Since the text of the Protocol and the rules for compliance to the regime were not completed until the end of the COP-7 negotiations in Fall 2001, it is hard to expect the regime to have been effective prior to its completion. At the same time, it would be expected that, if a country were sincere about meeting its emission reduction commitments, changes would already be visible. Thus far, however, national carbon dioxide emission levels have continued to rise since the Kyoto Protocol was drafted in 1997.

Within the Bonn Agreement, many nation-states were given the ability to account for emission reductions through forests that serve as carbon sinks instead of actual emission reductions. Some organiza-

FIGURE 4: The Global Environmental System



tions and nation-states have been critical of the amount of carbon sinks allowed to countries such as Japan, Australia, Canada, and Russia that threatened to pull out of the Kyoto Protocol. Without this provision, however, it is likely that the Protocol would not have survived the COP-6bis round of the negotiations. On the one hand, this inclusion of sinks weakens the level of reductions—and thus the material outcome of the Protocol—that will be seen in the first commitment period of 2008-2012. On the other hand, having a climate change regime that will motivate nations to invest in alternative energy sources and the development of new technologies prior to the second commitment period is likely to have positive effects on overall emission reductions during the commitment periods to come. In some ways, although there will not be a significant decrease in greenhouse gas emissions during the first commitment period that ends in 2012, the Kyoto Protocol has the potential to affect material outcomes successfully in the not-too-distant future.

Future Research

On an empirical level, the next stage of research must follow the climate change regime as the treaty enters into legal force. Once the treaty is implemented, we will be able to see, once and for all, the political and material outcomes and the efficacy of the global climate change regime. On a theoretical level, future research must continue to compare nations within the context of the global environmental system. As has been stressed by McMichael (1990: 396), it is important to recognize the inherent interconnectedness of the countries of the world by developing historically grounded social theory, in his own words, "through the comparative juxtaposition of elements of a dynamic, self-forming whole."

Endnotes

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2. As stated by Article 12 of the Kyoto Protocol: the treaty will enter into legal force ninety days "after it has been ratified by at least 55 Parties to the Convention, including developed countries accounting for at least 55% of the total 1990 carbon dioxide emissions from this industrialized group" (Climate Change Secretariat 1998: 1).

3. http://unfccc.int/resource/kpthermo_if.html as of 30 April 2003

4. For the sake of simplicity, I am referring to Beck's work on the Risk Society and SubPolitics all under the term "Reflexive Modernization."

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