

Global Warming and East Asia

The domestic and international politics of
climate change

**Edited by
Paul G. Harris**

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1 Introduction

The politics and foreign policy of global warming in East Asia

Paul G. Harris

Introduction

Governments of the world have been grappling with the problem of global warming for over two decades. Warming of the Earth's atmosphere is being increased by human activities – particularly the burning of coal, oil, and other fossil fuels – resulting in the emissions of carbon dioxide and other harmful “greenhouse gases” (GHGs). Global warming in turn is causing climate change, which is manifested in rising sea levels, droughts and floods, damage to agriculture, and harm to natural ecosystems and species. (See Chapter 2 for a discussion of global warming and climate change science and predicted impacts.) As the potentially severe adverse consequences of climatic changes have become more apparent and better understood, the efforts of governments and, increasingly, nongovernmental actors to mitigate and adapt to these consequences have increased.

A milestone in these efforts was reached with the signing of the United Nations (UN) Framework Convention on Climate Change (FCCC) at the 1992 UN Conference on Environment and Development (the Earth Summit). Subsequent international negotiations, notably those surrounding the 1997 Kyoto Protocol to the FCCC – which laid out a modest set of mandatory reductions in GHG emissions by developed countries – and subsequent deliberations on how to implement it, have been fraught with difficulties and differences among countries. The countries of East Asia (i.e. China, Northeast Asia, and Southeast Asia) have been intimately involved in these deliberations. Indeed, these countries are central to international efforts to address climate change. They include the world's second largest emitter of GHGs – China – and other major developing-country contributors with growing emissions. East Asia also includes one of the world's major economic powers and one of the largest donors of environmental aid to the developing world, particularly within the region: Japan. And East Asia contains many of the developing countries and vast populations that will be most affected by climate change.

This book includes studies that examine the implications for East Asia of global warming and climate change, as well as the global regime that has emanated from the international climate negotiations, and shows how the countries of East Asia play important roles in the international politics of climate change and the

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increasingly widespread and disparate efforts to address it at international, national, and local levels. We pay particular attention to the domestic and foreign policies of China and Japan. These countries are arguably the most important players in East Asia, and they represent the two extremes of countries in the region. China is a developing country with the world's largest population, many of them highly vulnerable to climate change, and it is second only to the United States in its total national emissions of GHGs. To a great extent, the future of the global atmosphere depends on the future of China. Japan is a highly industrialized country with membership in the club of the world's most developed economies. It has major financial and technological resources that can be brought to bear on the problem of climate change, and it also makes a large contribution to GHG concentrations in the atmosphere. Having said this, we also look at countries in the region that are making a smaller contribution to the problem but which have a very large stake in its present and future impacts on their ecologies and socio-economic systems.

The case studies in this book are important for a number of reasons. Many of the roots of the problem of global warming and climate change, as well as the available solutions to them, are firmly planted in East Asia. Much as the world needs the United States and other developed countries to reduce their extensive emissions of GHGs, if this problem is to be addressed with adequate vigor (at the time of this writing the prospect of this happening any time soon is rather bleak), the world must engage East Asian countries that contribute greatly to the problem through their own emissions. Just as important from the perspective of human well being, the vast populations of East Asia are particularly vulnerable to climate change. Their geographies and their often severe poverty mean that they will be greatly affected, usually in painful ways, and they will have difficulty coping with these effects. Thus, if we care about the problem of climate change, and if we care about the human suffering caused by it, we must seriously consider and understand the roles played by the countries of East Asia.

Toward this end, this book brings together into one volume some of the important research and thinking on the domestic and international politics and political economy of climate change in East Asia. This kind of research is available elsewhere in individual book chapters and journal articles, of course – although much of the thinking found here is original. But there are far too few books that bring this kind of work together under a single title. As such, this book is intended to make knowledge on the politics of climate change in East Asia readily accessible to scholars, policymakers, environmental and economic stakeholders, and students of environmental politics and policy. In the process of doing this, I have purposely sought to combine the research and perspectives of Western scholars with that of people from the region. This is critical, I think, because people from (and in) the region will have different interpretations of which issues are important, what actions are necessary to address this problem, and precisely which forces and actors are involved in the policy-making processes of East Asian countries. Western scholars in turn bring their own perspectives, derived from their personal paradigms and their research in the region. Collectively, the perspectives of the

contributors to this volume make important and unique additions to the social-science literature on climate change.

Climate change and East Asia: domestic politics, foreign policy, and international relations

Bearing in mind the importance of East Asia for efforts to address global warming and climate change, what general lessons can we draw from this book's analyses of countries within the region? There are many, some rather broad and applicable to most countries and their relations with the world beyond their borders; others quite specific, often idiosyncratic, but which influence international relations in the region and beyond. From a broad perspective (which we might think of as systemic forces), we must be cognizant of the environmental processes and effects themselves: global warming, resulting climatic changes, and the effects of these changes on the countries and peoples of East Asia. That is, climate change itself affects all other forces influencing the domestic and international politics of climate change in East Asia. Furthermore, *perceptions* of how climatic changes will affect national interests like economic development and human well-being are drivers of policy. This highlights the important role played by science as the stimulus for political negotiations and policy responses, as well as the more general importance of knowledge and expertise (such as understandings of the economic impacts of climate change and possible responses to it) in shaping domestic and international policy. Thus, at least at an initial level of analysis, countries of East Asia most affected by climate change (e.g. the Philippines and Indonesia) can be expected to take a great interest in international negotiations and mitigation measures.

However, there are other broad forces that influence political debates and policy processes. Among these are the disparities in wealth among countries, the different historical responsibilities for current atmospheric concentrations of GHGs, and associated considerations of international (in)justice and (in)equity. These are very important concerns for the countries of East Asia, and they can divert attention away from the actual and perceived impacts of climate change, in the process politicizing the international policy process. Questions of international justice and equity highlight the important role for international assistance between richer and poorer countries. For example, China has shown that it is possible to take concrete steps to address GHG emissions; its emissions, according to some new research, have not increased significantly in recent years, despite the rapid growth of its economy. Even if its actual emissions are growing, they are not increasing at anywhere near the rate of economic growth. To be sure, this can be explained in large part by China's efforts at transition to less-polluting fuels for reasons that go beyond combating climate change. Nevertheless, China expects much more help from wealthier countries to help it use energy more efficiently and in cleaner forms, and it expects the developed countries to set an example before it takes even more action to specifically address atmospheric pollution related to climate change. Other developing countries in the region hold similar views.

Much of the financial aid to support the kinds of development in East Asia that are less harmful to the global atmosphere is coming from within the region; Japan has provided major development assistance to its neighbors. But the motivation for Japan's assistance is arguably not always, or even frequently, linked directly to global warming and climate change, let alone climate change justice. Instead, Japan's policies are often associated more with the bureaucrats' perceptions of national and industrial interests, or aid for sustainable development is viewed as a way to bolster Japan's international standing. In addition to highlighting some of the nuances associated with North-South aid in the context of climate change, this shows that motivations for policies related to climate change are not as predictable and straightforward as cursory thinking would anticipate. Broad considerations regarding climate change – many largely unrelated – therefore influence national policies.

Looking more closely at individual cases, further lessons can be learned. For example, what role does the desire among countries for international reputation and leadership play? Some countries, China and Japan for example, want to be and are international leaders in various issue areas. But their desire to lead has restrictions. China, for example, wants to lead the developing world, and in so doing it resists the demands of the industrialized countries to take on firm commitments to limit its GHG emissions, and it resists multilateral efforts to shape its emissions policies. It has, nevertheless, been successful in limiting its emissions voluntarily, and it readily joins with other countries (notably Japan) in bilateral efforts to move its economic development path in an environmentally sustainable direction. This is because it can control such efforts more readily, take advantage of international financing associated with climate change, and otherwise promote its particularistic national interests more easily. Japan wants to lead as well, and it clearly cares about its image globally. But its climate change diplomacy may not be motivated greatly by the problem of climate change *per se*, which helps explain why its desire to lead is partly directed at shaping its regional neighbors' views of Japan and Japanese foreign policy.

Other lessons come from the case studies that follow. History and environmental experiences are sometimes crucial in international cooperation and policy making in East Asia. (Such findings are not new, to be sure, but they have been given too little treatment in existing literature addressing environmental diplomacy and sustainable development in the region.) For example, the history of war and occupation, perhaps surprisingly, greatly impacts climate change policy in East and Southeast Asia. China remains weary of outside influences and pressures as a consequence of its domination by Western powers, particularly in the nineteenth century. This affects its willingness – or rather unwillingness – to be bound by environmental standards set by international organizations, even if it has a hand in shaping those policies, and even more so limits its willingness to allow outsiders to dictate and run development projects related to climate change. Furthermore, China and the countries of East Asia have not forgotten Japan's occupations and atrocities in the last century. Consequently, they expect Japan to provide aid as a form of retribution, and Japan has agreed to do so, often in the context of

development assistance to combat pollution contributing to global warming (among other, more clearly self-interested, rationales for its aid).

Environmental history is also important. Japan has learned some important lessons from its national experiences with terrible environmental pollution, and this has affected its policies on climate change, both domestic and international. Thus it has had substantial success in addressing its environmental problems, although a fixation on domestic issues has often distracted it from taking on a more proactive role in dealing with global environmental problems. China's experience with longstanding ecological scarcities and widespread environmental pollution is equally appalling, if not more so, especially considering the very large number of people adversely affected. This recent history, and its continuing manifestations, are pushing China toward much more action to combat the pollution that causes global warming, in so doing addressing some of the country's worst national ecological issues.

Other lessons that come from the research described in this book highlight the often highly pluralistic nature of climate change politics. In international forums, many actors are able to affect policy. The usual actors remain the most important, notably governments and their diplomatic representatives, as well as the international organizations and the officials working for them. But other actors are increasingly very important in international policy processes, notably international financial institutions, nongovernmental organizations, and commercial entities. Similarly, a host of actors are at work at national and local levels. These range from state-level officials, bureaucracies, and local politicians, to a variety of actors in civil society, such as scientists, environmental activists and transnational groups, international organizations, and the communities and individuals most affected by climate change at the local level.

One interesting finding of some of the contributors to this volume is that the level of pluralism at the domestic level is not what it might at first appear to be. For example, Japanese democracy is shown to be often rather unresponsive to the interests of the Japanese people (that Japanese citizens have usually not tried harder to pressure government is of course an important consideration). Thus, Japanese policy on climate change is largely the result of bargaining among state-level actors (i.e. bureaucrats and the ruling party) in association with Japanese industry. Perhaps surprisingly, however, China's climate change policy process is quite pluralistic. A myriad of actors at all levels of society are involved. Communist Party officials are of course able to influence the shape of policy, but so too are scientists (many with conceptions of preferred policy derived from close contact with foreigners), bureaucrats of all stripes, local officials, and increasingly tolerated environmental activists – among many other actors. These cases show that an understanding of climate change politics in East Asia, and the resulting policies, require us to look inside the "black box" of domestic politics, and also to look at how what goes on there is influenced by forces from the outside.

These are only some of the most obvious conclusions and lessons that can be drawn from the chapters that follow. What comes from them is a better understanding of East Asia's important role in ongoing international efforts to limit

global warming and manage its effects, as well as the importance of considering how decisions taken farther afield affect the region and its peoples. Hopefully they also raise new questions that will be explored by others, in so doing heightening awareness of how East Asia can and does contribute to this problem and, more importantly, to its solutions.

The case studies

Many variables shape the policies and behaviors of governments toward one another and toward the problems they face. Indeed, with regard to global warming and resulting changes to climate, the variables are even more complex, disparate, and contentious than in most other areas of foreign policy and international relations. The case studies in this book examine many of those variables in the context of East Asia.

Perspectives on the politics of climate change in East Asia

In Chapter 2, Paul G. Harris presents a primer for the case studies that follow. He looks at two broad issues that permeate all debates about climate change policy and politics: (1) the anticipated and perceived ecological and especially socio-economic impacts of climate change for the countries of the region, which of course in large measure precede and dictate much of the subsequent negotiations, debates, and actions by individual countries and the international community; and (2) critical questions of international justice (i.e. equity or fairness) associated with global warming and efforts to deal with its consequences. These two broad issues are unavoidable considerations for efforts to address climate change, and they are central to helping us understand why and how countries respond to climate change at the national, regional, and international levels. The impacts of climate change drive cause concern among countries, although, importantly, they are not the only considerations. Demands for justice affect the *willingness* of countries to join and implement the FCCC and related international instruments, and the extent to which demands for international justice are fulfilled will often determine the *capacity* of many countries to take robust steps to limit global warming and deal with its adverse impacts.

Harris summarizes some of the science and related reports on climate change and its potential impacts in East Asia. As the reports show, climate change presents the region with major challenges, most of them unwelcome. (Later chapters look in greater detail at impacts in particular countries.) Harris also briefly introduces some underlying ethical considerations with regard to climate change justice before summarizing how justice is part of the broader international politics of climate change. His conclusion suggests that impacts of climate change are not always the most important considerations for East Asian countries. Improved understanding of the expected consequences of climate change has of course raised awareness and concern among them. However, profound concerns about justice (not to mention other concerns, which are addressed in the subsequent chapters) can be obstacles

to international cooperation and national action to deal with this problem. The countries of the region, even those that are highly developed, expect that the world's more affluent countries should act first to reduce their own impacts on the global atmosphere, and that they must assist the world's poorer countries – notably those of East Asia – if those countries are to take steps to limit their GHG emissions and cope with the inevitable consequences of climate change.

Subsequent chapters are divided into three geographic sections. Combined, their case studies provide detailed analysis of the two most important countries in East Asia (from the perspective of climate change), while also showing how some other countries in the region perceive the problem and how they might be affected by it. Part II of the book, the first geographic section, is devoted to China, the world's most populous country with a growing economy that will soon make it the largest source of climate change. Part III encompasses case studies of Japan, which is highly developed and one of the most important sources of international funding for East Asia's efforts to address climate change. Part IV of the book endeavors to partially balance the first two parts by looking at climate change politics and policy in developing countries of Southeast Asia. This final section is particularly geared toward highlighting the implications of climate change and related international policies at the local and regional levels.

China and the politics of climate change

In the context of climate change, China is the most important country in East Asia and perhaps the world in the long term. It contributes massively (albeit not on a per capita basis) to the pollutants causing global warming and, on a human scale, it will experience some of the greatest resulting hardship. The role of Chinese domestic and energy politics in the international climate change negotiations is explored by Michael T. Hatch in Chapter 3. Hatch argues that in most of the developing world global warming often hardly makes a ripple on the domestic scene, with more urgent problems like widespread poverty and degradation of air and water resources pressing upon local populations. What has become clear, however, is the necessity of developing country involvement if the climate change regime is to be effective in the long term. As suggested above, China clearly matters in this respect. Without substantial efforts on the part of China to limit future carbon dioxide emissions, any measures undertaken by other countries to mitigate global warming will be much less effective. Hatch shows how international factors were critical in the early formulation of China's strategy to address global warming. Most importantly, the domestic political process was driven by the necessity of responding to an international agenda pushed initially by transnational actors and international organizations. In the absence of pressures from abroad, according to Hatch, it is unlikely that China would have devoted much attention to the global warming question. In 1990, for example, China's position was hammered out among various bureaucratic agencies. It emphasized, among other things, the preservation of China's national sovereignty, the right to economic development, historical responsibility of industrialized countries in

addressing the problem, and the provision of new funding and technology to developing countries.

These initial positions were not immovable, however. Once engaged in the international negotiating process, China found it necessary to compromise in several areas, and at times to change its position in order to preserve a unified position with other developing countries. At the same time, forces within the domestic political process placed constraints on Chinese participation, constraints related to the priority of economic development and its implications for energy policy. Most importantly, bureaucratic actors came to dominate the policy process, thereby limiting the influence of domestic interests favoring restructuring of the energy sector and GHG emissions limitations. Nonetheless, the relative influence of domestic actors was not immutable. Considerable fluidity exists in China's domestic policy process and this was demonstrated by shifting its negotiating position on joint implementation (whereby polluters can avoid their own GHG emissions cuts by purchasing emissions reductions taken in other countries) and its more recent interest in the Kyoto Protocol's Clean Development Mechanism (CDM), which was formulated to provide aid from developed to developing countries for GHG reduction projects. Indeed, there are ongoing struggles over the future direction of China's energy policy, and therefore there are more potential changes to come. Hatch argues that outside actors may be able to influence the outcome of internal struggles through approaches that help reinforce the more environmentally proactive forces in the domestic policy process.

In Chapter 4, Zhihong Zhang also examines forces behind China's climate change policies. According to Zhang, the importance of China is usually understood in two ways. First, with a burgeoning economy and heavy reliance on coal for energy, China is expected to eventually overtake the United States as the world's largest emitter of GHGs. Second, as the world's largest developing country, China is a leader in the developing world, often "steering" international climate change negotiations. Its interests are not always the same as other developing countries, however, and it is not always able to persuade them to follow its lead. Nevertheless, its influence is great. For these reasons, China's views on climate change will have far-reaching implications, and understanding the forces shaping its domestic and foreign policies is critically important.

Zhang argues that China's climate change policies have been driven by three complementary forces. First, China seeks to protect its economic interest and promote its economic development. Any climate change agreement that hinders these will likely be resisted by China. Consequently, Zhang believes that China's sense of urgency to tackle climate change is not as strong as some other developing countries, and it is generally interested in taking on associated low-cost, "no regrets" commitments. Second, China seeks to protect and promote its sovereignty. As such, it resists international monitoring and enforcement, and it may fend off criticisms of its performance or turn away from major commitments. Having said this, China is amenable to more "positive" elements of "surrendering" some sovereignty to international regimes, notably through equality, mutual respect, and state capacity to enforce international regimes. Third, China is concerned about

its international image. This concern may induce it to be more cooperative in the context of international climate change agreements and their implementation. Zhang argues that advancing one policy goal (e.g. international image) may be achieved at the minimum expense of other policy goals (e.g. economic development). Reinforcing one of the preceding chapter's conclusions, Zhang finds that future Chinese policies on the implementation of the climate change regime are not unchangeable. By understanding the forces underlying China's policies, and the potential for them to evolve still further, he believes that diplomats may be able to produce more productive international cooperation on climate change.

In Chapter 5, Yuka Kobayashi examines tensions between "luxury" and "survival" emissions in China's climate change diplomacy. Luxury emissions are many, most of those in the developed world resulting from affluent lifestyles; survival emissions are those frequently essential to survival in the developing world. As Kobayashi points out, while there are many studies in international relations on environmental regime formation, compliance, and effectiveness, there are relatively few that begin from China's perspective. China is particularly concerned about climate change because implementing the related international regime is expensive, imposing broad constraints on its economy. In addition to posing difficulties for many developing countries, climate change is a controversial issue that involves North-South equity considerations (as elaborated in Chapter 2). This is exacerbated by China's view of sustainable development as "sustained development," and the country's usual ranking of economic development and poverty alleviation above environmental protection. What is more, bearing in mind China's history, its view of the climate change regime is often one of "imperial invasion, yet again."

As a consequence of these and other considerations, in *multilateral negotiations* China has generally opposed mechanisms such as joint implementation and the CDM. However, in *bilateral*, project-level negotiations, China has shown more flexibility by approving several joint implementation projects. Why does China take these differing stances in these two types of negotiations? How does this alter our understanding of Chinese responses to climate change? According to Kobayashi, at the multilateral level China has joined the developing world in international negotiations to maintain its partnership with them, but at the bilateral level its domestic interests prevail. These policies are influenced by the relative power of influential ministries, and by China's desire to avoid losing control over joint implementation projects, which is more likely with multilateral programs. China took an accommodating stance on joint implementation projects in the bilateral relationship with Japan because doing so offered the best technology and gave China more control over the relationship. Kobayashi concludes that neorealist perspectives on international relations, which focus on the distribution of power among countries, help explain its multilateral stance, but that we should look at more detailed issues – such as relative power of bureaucratic and ministerial actors, or historical experiences – to fully explain many of China's climate change policies resulting from bilateral negotiations.

In Chapter 6, Axel Michaelowa, Jusen Asuka-Zhang, Karsten Krause, Bernhard Grimm, and Tobias Koch examine potential opportunities and barriers

inherent in the Clean Development Mechanism for China's energy sector. China's GHG emissions are currently about half the global average, but most predictions see them as rising substantially as the economy grows and energy use increases (despite recent reductions from reduced coal burning as China switches to alternative fuels). In particular, electricity use is growing. The government envisions that an important share of investment in electricity supply expansion will be financed by foreign capital. Projects under the CDM can provide an opportunity to transfer highly efficient, low-GHG energy supplies and energy-use technologies to China, thus reducing the environmental impact of its economic growth.

Michaelowa and his colleagues discuss the overall development of energy use and supply in China during the last decade, the move toward energy efficiency, and the relatively small impact of foreign investment in the power sector. Their analysis of Chinese climate policy shows that China has been reluctant to embrace the concept of the CDM despite intense persuasion and provision of funds. Building on conclusions in the other chapters on China, they argue that outsiders may be able to convince China to embrace the CDM mechanisms by showing how foreign investment can help to further upgrade China's energy sector, benefit the economy, and bring local environmental benefits. As such, these investments could help the industrialized countries more efficiently fulfill their own GHG emission targets under the Kyoto Protocol.

Formulating climate change policy in Japan

The third part of the book focuses on the shaping of Japan's climate change policies. Japan's role was highlighted when it hosted the 1997 Kyoto conference, which resulted in the Kyoto Protocol to the FCCC. Looking at the evolution of Japan's foreign policy on climate change over the last decade and a half, one can argue that it has moved from reacting to what other countries do to being much more proactive in trying to shape the climate change regime. As Yasuko Kameyama shows in Chapter 7, Japan was one of the last countries to enter the climate change debate, but now it continually submits proposals and stimulates international negotiation. However, behind Tokyo's new unified international face lie disparate views and motivations. Different actors in Japan have interpreted climate change policies in various ways; some have considered it an environmental problem, others an integral part of energy policies. The upshot is that climate change as *foreign policy* has been the most influential driving force in Japan's response to climate change. That is, being involved and even trying to lead the climate change debate has in some respects become Japan's foreign policy, quite apart from global warming and climate change *per se*.

To explain this phenomenon, Kameyama divides Japan's response to the international climate change debate into five historical phases. The first phase went from 1985 to early 1989, when Japan was not interested in climate change. During this period, not many people in Japan were aware of the problem or recognized its political significance. The second phase lasted from late 1989 to May 1992, when climate change entered the political agenda and countries negotiated the

FCCC. The third phase ran from 1992 to March 1995. There were no major events at the international level during this phase, but Japan's ratification of the FCCC allowed it to build a fundamental policy basis at home and influenced its foreign policy, especially at the regional level. The fourth phase went from the first conference of the parties (COP1) to the FCCC in March and April 1995, to COP3 in December 1997, when the parties to the FCCC adopted the Kyoto Protocol. This phase included the process for negotiating the protocol. The fifth phase identified by Kameyama lasted from 1998 to 2001. During this phase Japan endeavored to influence the follow-up negotiations on implementing the Kyoto Protocol.

Kameyama argues that the interface between international negotiations and domestic policies is where a variety of positions of subnational actors are consolidated into a country's single policy. She examines this interface by reference to a "two-level game" analysis, which encompasses both international and domestic forces shaping policy. Kameyama finds that Japan's shift from a reactive to a proactive climate change policy was related to shifts in its foreign policy process. Hosting COP3 in Kyoto had a significant effect in involving foreign policy perspectives in the Japanese climate change debate. Before the start of negotiations toward the Kyoto Protocol, Japan tended to consider climate change as only an environmental or energy issue. During the negotiations, however, it began to see climate change as a foreign policy matter related to broader Japanese interests in international affairs. This change influenced Japan's position during and after the negotiation of the protocol. Kameyama argues that Japan's position on climate change will continue to be influenced by the foreign policy process. Its greater willingness to be involved in the global climate change debate is likely to continue if its involvement at the international level remains as it has been in recent years. The converse is plausible, however, if its role at the international level changes.

The priorities and future options for Japan's climate change diplomacy are examined by Jusen Asuka-Zhang in Chapter 8. Asuka-Zhang describes the key elements of Japan's environmental diplomacy in the field of climate change. One of these key elements is the use of official assistance to developing countries in the areas of environmental protection and energy efficiency. This assistance promotes Japan's goals of improving environmental conservation and raising its stature in the international community (among other goals). The chapter looks at the roles of key governmental agencies involved in Japan's environmental diplomacy, notably the Ministry of Foreign Affairs, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment. Asuka-Zhang briefly analyzes Japan's negotiating position at COP3 by focusing on the country's unique position on the issue of new funds for the CDM. With this background in mind, the chapter analyzes future options for the Japanese government, including a recommendation to set up new institutions for official development assistance, particularly an Asian carbon fund and a debt-carbon swap.

Asuka-Zhang maintains that for Japan to increase its leverage in the climate regime there will have to be cooperative efforts between relevant domestic actors (e.g. bureaucrats, politicians, corporate executives, engineers, academic experts in environmental economy, the public, nongovernmental organizations). They will

have to target the realization of financial and technological transfers to developing countries that create "win-win-win situations" for Japan, recipients of its assistance, and the global environment. Japan sought to do this by hosting the Kyoto conference and by increasing its environmental aid. However, Japan's position on some climate change issues has not been consistent from the perspective of environmental integrity. Japan also has no clear strategy for carbon-credit acquisitions from Asian countries. Therefore, to realize the "win-win-win situation" in Asia with proper use of public funds and without harming environmental integrity, while also promoting technology transfer, Asuka-Zhang considers several policy options. These include increasing funds for environmental assistance and making their provision more flexible. Japan could also benefit from combining construction of a common decision-making scheme for its international environmental policy with various other diplomatic and economic issues, such as energy and environmental security. Climate change is an issue that will largely affect Japan's industrial structure (e.g. the tax system and its domestic emission trading scheme) and its society overall (e.g. consumption patterns). Thus a strategic governmental response, which links international and domestic mechanisms, will, in Asuka-Zhang's view, be essential if Japan is to have a continuing constructive role in international efforts to address climate change.

In Chapter 9, Atsuko Sato highlights various levels of international policy making. She does this by focusing on the role of knowledge in shaping Japan's responses to stratospheric ozone depletion and climate change. Until recent decades, few people seriously considered the global atmosphere as an appropriate subject of international politics. Today, however, it is widely understood that the atmosphere is not only a part of the global commons, but that it is in danger of severe human-induced degradation. At the same time, however, global atmospheric science remains uncertain, and it is in the face of these uncertainties that international efforts to protect the ozone layer and to halt global warming have taken place. Adopting a social constructionist framework, which focuses on the interaction of knowledge and policy making, to examine the linkages between international and domestic political processes in Japan, Sato's chapter looks at the manner in which the Japanese have interpreted developments in global atmospheric science and how this interpretation has shaped Japan's foreign policy making and its participation in the development of international atmospheric regimes. Sato is concerned with why and when a particular understanding of the global atmospheric crises emerged and became politically relevant in Japan.

To analyze Japan's response to global atmospheric problems, Sato traces the development of knowledge in the process of science and policy construction. By tracing knowledge, the chapter illuminates a diverse group of factors, such as science, environmental values, apolitical interests, power, and disparate actors such as scientists and scientific communities, policymakers, the media, industries, environmental groups, other states, and international institutions. All of these actors are knowledge-constructors and/or knowledge-transmitters, and in the flow of knowledge they insert their political and environmental interests and values into the policy process. Three periods are studied in Sato's chapter: (1) the

initial stage of ozone science and politics in the 1970s; (2) the period leading to the Montreal Protocol on Substances that Deplete the Ozone Layer, which was agreed in 1987; and (3) the relationship between climate science and politics between 1988 and 1997, when Japan hosted COP3. Sato finds that, by themselves, scientific knowledge flows do not matter as much as we might expect. To have substantial impact, they must be accompanied by a broader shift in attitude, thinking, and perceptions – "discourse shift." In Japan, a major discourse shift occurred between the 1970s, when the country was focused almost exclusively on domestic pollution problems, and the late 1980s, when international environmental issues grew in prominence. This is particularly significant given the uncertainty in atmospheric science. Japan's more recent commitment to climate change politics should therefore be understood as an outgrowth of global environmental discourse and the adoption of the "precautionary principle" in Japanese society.

In Chapter 10, Dana R. Fisher draws on extensive qualitative interviews to illuminate Japanese domestic responses to the issue of climate change, particularly since COP3 in 1997. She looks at various social actors involved in political decisions surrounding Japan's response to potential international regulation in the context of climate change. She finds that civil society involvement has a "spatial" component. At the *national* level, Japan does not have a strong civil society addressing global issues like climate change. Her interviews revealed a consensus that there is an absence of citizen involvement in national debates about Japan's role in mitigating climate change. However, civil society is nonetheless engaged at the *local* level, a phenomenon explained by the historical development of Japanese society.

According to Fisher, different social actors in Japan have distinctive roles in shaping climate change policies. Government officials, working with industry, decide climate change policy. Citizens have a small role in formulating policy; their role is to be consumers. In other words, actors from science, industry, and the state lead the way in making environmental protection possible, including in cases of broader issues like climate change. Fisher's findings challenge theories that say there must be significant social movements and a strong civil society before there can be "ecological modernization." One possible interpretation of his research, she suggests, is that many past environmental mistakes in Japan created a political consensus at the level of the state to avoid them in the future. Despite her findings about the limited role of civil society in shaping Japan's policies on climate change and its mitigation, Fisher believes that future policies may be subject to greater influence from this sector. So far, however, the state itself has developed a credible policy toward climate change, one that is arguably more proactive than many policies of countries where societal actors have much greater access to the policy-making process.

The costs and opportunities of climate change in Southeast Asia

Chapter 2 summarizes many of the broad anticipated effects of climate change. The second section of this book illuminates many of the concerns and policy-making

challenges faced by the world's largest developing country: China. In Chapter 11, Joy V. Galvez helps us appreciate the impacts of climate change – and their implications for policy making – in a much smaller and arguably even more vulnerable developing country of East Asia: the Philippines. Her summary of many key issues and concerns in the Philippines highlight some possible differences in perceived interests and strategies of the poorer countries in East Asia. As Galvez points out, the Philippines is a hot spot for natural hazards. As such, it is particularly vulnerable to climate change, and she describes in some detail many of those vulnerabilities first introduced in Chapter 2. The sectors in the Philippines projected to suffer the most from climate change-related impacts are water resources, agriculture, coastal resources, and human health. Galvez reminds us that these impacts worsen conditions in an already very underdeveloped country, and they will cause further suffering among a population that is already largely destitute.

Galvez shows how government and private actors have worked together to assess the Philippines' contributions to global warming and the implications of climate change for the country. At the international level, the Philippines was one of the first countries to discuss and develop positions on climate change. It aligned itself with other developing countries. At the national level, the government developed an interagency group, composed of national agencies, academic institutions, and civil society actors, that has contributed to scientific research related to climate change vulnerability of smaller countries like the Philippines, as well as to the strong legal position of developing countries in relation to the responsibilities and commitments of developed countries. But Galvez believes that these actions have been inadequate. Without a greater response from the national government, international organizations and the Filipino people, she says, the Philippines will suffer markedly from the projected impacts of climate change. Her chapter shows that if the Philippines is to cope with this problem, the government must develop programs for massive information campaigns, educating the populace about the issue and how they contribute to it; review existing national and local environmental laws based on their relationship and congruence with international environmental laws, particularly on biodiversity conservation and climate change; and impose stiffer penalties on violators of existing environmental laws (e.g. strengthening the country's logging ban and clean air act) so as to curtail abuse and wanton environmental destruction. Having said this, the necessary resources to actualize Galvez's recommendations are far too limited. Implementation of these strategies will require substantial additional assistance from the world's developed countries.

In Chapter 12, Frank Jotzo, Agus P. Sari, and Olivia Tanujaya use the case of Indonesia to demonstrate some possible fallacies in current thinking on international efforts to offset GHG emissions in developing countries. The Kyoto Protocol requires the developed industrialized countries to limit their GHG emissions as well as to enhance "sinks" for them (e.g. possibly including growing trees, which at least temporarily absorb carbon dioxide). One of the protocol's unique characteristics is the provision for carbon emissions-offset mechanisms, where countries can trade emissions quota permits. At present, the CDM is the only

mechanism for this that can include developing countries. The issues under negotiation include potential restrictions on buyers and sellers, and the inclusion of sink projects (largely forestry programs) under the CDM.

Using a quantitative model developed specifically for policy issues in the implementation of the Kyoto Protocol (the Pelangi Emissions Trading model), Jotzo, Sari and Tanujaya analyze the implications of including sinks projects under the CDM. They find that assuming these projects will increase the volume of the CDM may be incorrect. This is because the increase in low-cost sinks projects leads to a fall in the price paid for emissions credits, which can outweigh the quantity gains, and lead to lower revenue and lower financial gains for developing countries. However, equity between countries and between regions within countries may be enhanced by the inclusion of sinks, as shown by the authors' study of Indonesia. At the very least, their work shows that the "devil is in the details," and that proposals for dealing with climate change absent detailed analyses of their impacts may have unforeseen implications for social and international equity, as well as for the practical goal of reducing climate-changing emissions.

In the final chapter, Tim Forsyth discusses the implications of climate change investment and technology transfer for countries in Southeast Asia. He argues that technology transfer is crucial to international environmental agreements, and that it is viewed by many developing countries as a prerequisite for their adherence to treaties. Yet many investing countries see technology transfer as a lengthy and costly process that threatens intellectual property rights. Forsyth argues that such views need to be rethought. Technology transfer should instead be perceived in terms of so-called "horizontal" transfers (including long-term sharing of technological expertise) and "vertical" transfers (in which technologies are relocated without this long-term sharing). Forsyth illustrates how vertical transfer may occur, using evidence from Thailand, Vietnam, Indonesia, and the Philippines. His key argument is that integrating technology transfer with international investment offers a powerful way to overcome disagreements in the climate change negotiations. But, for this to happen technology transfer must be seen as a function of international investment and national and regional technology policy. If technology development is still seen in conventional terms as a linear process, (i) be controlled by indigenous companies, the prospect for enhancing international climate technology transfer is reduced because the process will be perceived as too costly and a risk to competitiveness. However, if it is seen as a chance to invite new technology investment from international companies that do not expect to give up intellectual property rights, it is possible to have a win-win situation in which environmentally sound technology is increased, local development is assisted through the introduction of new investments, and investors are allowed into new markets. Technology transfer can therefore fully complement both international environmental agreements and international private-sector investment.

Redefining technology transfer away from the conventional view, which suggests that it can only assist potential economic competitors, has ensured that foreign policy objections have acted against moves to enhance technology transfer in the past. In contrast, viewing technology transfer in terms of "vertical transfer," or

the relocation of economic activity without the sharing of intellectual property rights, can lead to an integration of foreign policy objectives with activities to mitigate climate change. Seeing the relationship between technology transfer and other important aspects of foreign and economic policy may lead to more optimistic and successful negotiations under the FCCC. However, Forsyth cautions that there is a need for careful monitoring of all international investments under the CDM to ensure that new investments in technology actually reduce GHG emissions.

Conclusion

Understanding how and why governmental and nongovernmental actors cooperate at the international level and work at local and national levels to address global warming and climate change requires us to look at many actors and, ideally, to employ several levels of analysis. The environmental foreign policies of the countries of East Asia, and specifically the interactions between their domestic politics and policy-making processes, on one hand, and international relations on global warming and climate change, on the other, are explained by the perceptions and actions of, and deliberations among, many often disparate actors at the individual, national, international, and global levels. For example, powerful individuals in China can push policy in new directions; bureaucracies and industrial actors in Japan can shape regulations and policies on climate change; international cooperation can stimulate new actions at the national and local levels, or it can itself be shaped by actors at those levels; global forces, most notably the climate changes that now seem to be underway and the growing norm that countries ought to act to deal with them, are increasingly affecting the world's and East Asia's responses to global warming. The upshot is that we need to look within the countries of East Asia, while simultaneously looking at interactions among them and between them and countries and other actors beyond the region, to fully explain their policies and to comprehend sufficiently how to bring about needed policy changes. The chapters that follow should help, at least in a small way, to do this. If acted upon, the lessons from this book may help mitigate global warming in the long term and reduce the suffering that will result from the adverse impacts of climate change.

2 Climate change priorities for East Asia

Socio-economic impacts and international justice

Paul G. Harris

Introduction

Many actors, institutions, and forces influence the foreign policies of governments and hence the course of international relations. This is as true of environmental issues as it is of other matters facing the international community. Indeed, with regard to global warming and resulting changes to the Earth's climate, the variables are even more complex, disparate, and contentious than in many other areas of foreign policy. The chapters in this book examine many of those variables in the context of East Asia.¹ This chapter serves as a primer for those studies by looking at two broad issues that permeate debates about climate change policy and politics: (1) the anticipated and perceived ecological and socio-economic impacts of climate change for the countries of the region, which of course in large measure precede and dictate much of the international negotiations and subsequent actions by individual countries (Harris 2000a: 1–18; 2001a); and (2) critical questions of international justice (what some prefer to call international equity or fairness) associated with global warming and efforts to deal with its consequences (see Harris 2001b: 1–88).² These two broad issues are unavoidable considerations for efforts to address climate change, and they are central to helping us understand why and how countries respond to it at the national, regional, and international levels. The impacts of climate change drive concerns among countries, to be sure. But they are not the only considerations. Demands for justice affect the willingness of countries to join and implement the climate change regime, and the extent to which those demands are fulfilled will often determine the ability of many countries to undertake the measures that are necessary to limit global warming and to deal with the adverse consequences of resulting climate change.

In this chapter I summarize reports on global warming and the potential impacts of climate change in China and East Asia. While these reports vary somewhat in their findings and their degree of certainty, the preponderance of evidence is clear: Climate change presents the region with major challenges, most of them unwelcome. Subsequent chapters look in greater detail at impacts in particular countries. I also briefly introduce some underlying ethical considerations with regard to climate change justice and equity before summarizing how justice is part of the broader international politics of climate change, the 1992 Framework Convention on Climate Change (FCCC), its 1997 Kyoto Protocol