



Institutional Bargaining for the Climate Regime

The Process and Its Dynamics

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1. Introduction

“The Heat is on!”¹ The signs from the Earth signal that we are in a warmer world. The impact of global warming is happening. Both human and nature are adversely affected. The global warming, as one of the most overarching environmental issues, has been a hot debate. It is characterized by its complexity and scientific uncertainty. The scientific communities first raised this issue and thereafter it emerged as a political concern among states during past decade. The climate talk formally begun in the early 1990s. Multiple actors were involved and transnational alliances emerged. The concerted efforts to devise a suitable solution for climate change finally bear fruit. The 1992 United Nations Framework Convention on Climate Change (UNFCCC) and 1997 Kyoto Protocol epitomize the international efforts to combat the global warming. Recently the global warming issue has caught world-wide attention again as the Russia Federation ratified the Kyoto Protocol.² It means the world is going to rejoin the “Kyoto land.”³ The rise, fall and revival of the Kyoto negotiation have exemplified the success of global environmental cooperation. It provides an unprecedented case to draw insights for global governance in other arenas.

1.1 Aim of Research

One of interesting features of climate politics is that, from the early concerns in the 1970s to the completion of the Kyoto Protocol, a global climate change regime was created. Different levels of actors and multi-interdisciplinary efforts were involved with the formation of climate regime. Inevitably, multi-faceted levels of the modern human life are influenced by the measures against climate change, i.e., Kyoto Protocol. Hence, the aim of this research is to get a clear picture of how the climate regime was formed and to pinpoint the underlying governance mechanisms within the Kyoto negotiation. Much attention is paid to the process of climate regime formation. Also, in order to further understand its process and dynamics, the determinants of success or failure in the Kyoto negotiation would be identified and examined.

First, the post-UNFCCC developments will be the focus of the essay to illuminate the climate change regime formation. The eight-time meetings of Ad Hoc Group on the Berlin Mandate (AGBM) and the Conferences of the Parties (COP) from the COP-1 to the COP-9 will be elaborated. Apart from that, the effectiveness of the Protocol rests upon its implementation. Thus, the other purpose is to study the developments of the post-Kyoto negotiations and the problems implementing the Kyoto Protocol. The last section of the research will thereby center on the post-Kyoto regime, mainly the interim arrangement during the first commitment period and follow-ups of COP so as to identify the problems and prospects concerning the implementation of the Protocol.

1.2 Theoretical Framework and Approach

The thesis employs the “institutional bargaining” approach to study how the climate change regime forms and to spotlight its dynamics during the process of climate negotiation. The “institutional bargaining” approach is one of interest-based regime-theoretical approaches. The interest-based regime theory emphasizes how self-interest actors strive to reap absolute gains by means of the establishment of the regimes or institutional arrangements.

The reason of adoption of the institutional bargaining as the theoretical approach here lies in the institutional bargaining perspective avoids the flaws of the traditional regime theories, namely realism or neorealism, neoliberal institutionalism and cognitivism. The power-based realists argue that only by the existence of a hegemon can the conditions of cooperation be created.⁴ In contrast, interest-based neoliberal institutionalism assumes that states as utility maximizers with fixed preferences would try to reap joint gains through institutional arrangements. The cognitivist model contends that the ideas and knowledge play a greater role

¹ Tim Appenzeller and Dennis R. Dimick, “The Heat is on!” *National Geographic* (September, 2004):2.

² The Russia Federation ratified the Kyoto Protocol on 5 November 2004. It significantly means that the Kyoto Protocol is going to put into effect after the 90 days of the ratification by Russia.

³ “Climate change and business: Welcome to Kyoto-land” *The Economists* (9th October, 2004):63.

⁴ Keohane O. Robert (1980) “The Theory of Hegemonic Stability and Change in International Economic Regimes, 1967-1977.” In *Change in the International Systems*, ed., by O. R. Holsti, R. M. Siverson, and A.L. George. (Boulder, CO: Westview Press).

in international cooperation than those propositions of rationalists.

These theories through a lens of power, interest and knowledge have identified the reasons *why* states cooperate, but few study on *how* states collaborate on their common interests during the process of the regime formation. The emergence of “institutional bargaining” approach has prevented this neglect. As a process-oriented regime theory, institutional bargaining model offers a clear picture of the process of the regime formation. It highlights the process of negotiating a set of “constitutional contract” as the content of the regime.⁵ This process is obviously characterized by the negotiation aimed at reaching mutually acceptable rules. A regime is thereby the result of negotiation process. Thus, the “institutional bargaining” approach can best illuminate the process of climate negotiations.

More importantly, the success or failure in institutional bargaining rests upon a set of hypotheses. The factors contributing to success in institutional bargaining include integrative bargaining and a veil of uncertainty, exogenous shock or crisis, availability of equitable solutions, salient solutions, clear-cut and effective compliance mechanisms, and individual as leadership. These concepts would be introduced in Chapter 2; thereafter in Chapter 5 they are examined in the climate change regime.

1.3 Method of Research

The method for this research rests upon employing the institutional bargaining model as an analytical tool to examine the process of climate change regime formation. That is, this paper is structured by means of identifying the propositions that affect the success or failure of institutional bargaining with respect to the climate change case.

The climate change by its very nature is a global common problem where responsibilities are hard to trace and where emission activities in one country would affect other regions. That makes it to a relevant case study. Also, characterized by its complexity, scientific uncertainty of the climate change, and non-exclusiveness of its impact, the climate regime case provides a rich source of details for analyzing how global society jointly coordinates to combat the global warming. During the process of negotiations of Kyoto Protocol, how multiple participants define the issue, state their positions or preferences, solve the problems that encountered, and formulate the content, all of which have allowed the institutional bargaining model to examine its propositions.

Therefore, the method of research adopted here includes tracking the negotiation process by means of phased-process analysis⁶ (mainly the convening of the COPs), focusing on multiple actors' positions, especially the North and South divide, and examining the substance of the Kyoto Protocol. The key concept from institutional bargaining model would lend itself to the investigation of the Kyoto negotiations. Particularly the hypothesis of success of institutional bargaining would be examined to see whether the climate regime possesses these elements that the institutional bargaining model supposes.

1.4 Materials of Research

The analysis is based on a line of documents and relevant documentation issued by the UNFCCC and Kyoto Protocol, particularly the documents and decisions of the COP and its subsidiary bodies. The decisions and resolutions published in the reports of the COP principally constitute the underlying negotiation information of the climate regime. Therefore, the material of this research rests upon these successive decisions taken by the COP at its session from the COP-1 to COP-9. Much attention would be paid to the documents of the COP-1, CO-P2 and COP-3 since they primarily make up the substance and process of the Kyoto regime formation. The point of departure of the analysis lies in the documents of COP1 and AGBM negotiations. Thereafter, the decisions of the COP2 and the completion of the Kyoto Protocol at COP3 will be examined to pinpoint the dynamics in the Kyoto regime formation. Besides, the post-Kyoto negotiations and its implementation will be also analyzed with the information provided by the reports from COP-4 to COP-9.

⁵ Oran R. Young, “The politics of international regime formation: managing natural resources and the environment,” *International Organization*,43 (3)(Summer 1989).

⁶ Pamela S. Chasek(2001) *Earth Negotiations: Analyzing Thirty Years of Environmental Diplomacy*(United Nations University Press).

In addition, other sources from the Earth Negotiation Bulletin (ENB) and Climate Action Network (CAN) are selected as supplementary data for research. The ENB is a reporting service for environment and development negotiations, published by the International Institution for Sustainable Development (IISD).⁷ Also, the other newsletter: *ECO* -the CAN climate conference newsletter-published by the CAN consisting of over 300 NGOs, provides the negotiators with the live information about the climate talks.⁸ Both the ENB and CAN offer the detailed and specific information concerning the Kyoto negotiations. Apart from the official documents and newsletters, the literature reviews with respect to the Kyoto negotiation are also indispensable to the research. Below are laid out the climate-related literature reviews.

1.5 Literature Review

In the research filed of climate change issue, there are generally two perspectives: “can’t do” and “can do” approaches to global climate change.⁹ The “can’t do” views put emphasis on the pessimistic respects and underlying obstacles for the implementation of the Kyoto Protocol. The book by Victor (2001) highlights the flawed design within the Protocol such as special targets and schedules would make Kyoto Protocol “collapsed.”¹⁰ The other barriers that impede the efforts to devise climate treaty lie in the conflict between the North and South. Mwandosya (2000) points out the equity debates between the developed and developing world have plagued the whole Kyoto negotiation.¹¹ In contrast, the “can do” views throw light onto the positive visions of the Kyoto Protocol. The book edited by Eileen (2001) offers empirical case of innovation projects and practices against climate change at the local and state level.¹² Marcel Kok (2002) et al.’s volume centers on developing “climate neutral” societies where the individuals can play a crucial role in the tradable permit system.¹³

With regard to the negotiation of the Kyoto Protocol, three books provide a detailed analysis of the climate talk. The first one by Oberthur and Ott (1999) focuses on the key players and negotiating history of Kyoto Protocol and examination of the provisions of the Protocol.¹⁴ Another literature by Grubb and Brack (1999) is devoted to illustrate the background of the making of the Protocol and its content, and offers a quantified analysis of the Protocol’s commitments and transfer mechanisms.¹⁵ The third writing by Luterbacher and Sprinz (2001) lays out the thinking about the concepts, methods and design of regime and how international relations theories can help us understand the obstacles to solving the climate change as a global commons problem.¹⁶

Moreover, concerning the theoretical literatures, the works by Young carry a lot of weight in this respective due to his remarkable and consistent studies on regime or governance on natural resources, and also, his invention of the “institutional bargaining” approach. In his seminal work (1989), efforts have been made to demonstrate the possibility of application of the notion of international regimes, more broadly, international institutions to problems of international cooperation pertaining to natural resources and the environment. The regime formation for the marine fisheries, deep-seabed mining, nuclear accidents and arctic shipping have been exemplified in the book while the international regimes in theory has been examined

⁷ <http://www.iisd.ca/enbvol/enb-background.htm>

⁸ <http://www.climatenetwork.org/eco/>

⁹ Anita Krajnc (2003) “‘Can Do’ and ‘Can’t Do’ Responses to Climate Change,” *Global Environmental Politics* 3(4):98-108.

¹⁰ David Victor (2001) *The Collapse of the Kyoto Protocol and the Struggle to Slow Global Warming* (Princeton University Press).

¹¹ Mark J. Mwandosya (2000) *Survival Emissions: A Perspective from the South on Global Climate Change Negotiations* (Dar-es-Salaam: Center for Energy, Environment, Science and Technology).

¹² Eileen Claussen, ed (2001) *Climate Change: Science, Strategies and Solutions* (Leiden: Brill).

¹³ Marcel Kok, Vermeulen Walter, Faaij Andre and Jager de David, eds (2002) *Global Warming and Social Innovation: The Challenge of a Climate-Neutral Society* (London: Earthscan).

¹⁴ Sebastian Oberthür and Hermann E. Ott, (1999) *The Kyoto Protocol: International Climate Policy for the 21st Century* (Berlin: Springer).

¹⁵ Michael Grubb with Christiaan Vrolijk and Duncan Brack (1999) *The Kyoto Protocol: A Guide and Assessment* (London: The Royal Institute of International Affairs).

¹⁶ Urs Luterbacher and Detlef F. Sprinz, ed. (2001) *International Relations and Global Climate Change* (Cambridge: The MIT Press).

in an institutional perspective at the beginning. Also, another book by Young (1994) is a successor to the prior study by reexamining the basic issues that come into focus with the distinction between governance systems and governments. Except for the regime formation, it also deals with the effectiveness of international governance systems. Of great importance is that it reaffirms the emergence of the concept of institutional bargaining as a way of thinking about the creation of international regimes.

1.6 Scope of Research

The range of the research will mainly center on the negotiations of the Kyoto Protocol and post-Kyoto development. That is, the completion and ratification of the Kyoto Protocol in the 1997 will be the focus. And the second part of the research will lie in the recent follow-ups of the COP.

1.7 Essay Overview

The research begins with the introduction of the concept of the institutional bargaining in the Chapter 2. The origins, features, determinants of success or failure of institutional bargaining and its theoretical limitations are explained. Chapter 3 focuses on the climate change issue as a political problem: the nature and impact of global warming, its energy context, and the emergence of scientific consensus and political response to climate change. Chapter 4 illuminates the different positions of multiple actors and how the core issues pertinent to climate change evolve by developing a phased-process analysis of the post-Rio negotiations from the completion of the UNFCCC to the COP-3. Chapter 5, the pivotal part of the essay, explores the determinants of success of institutional bargaining in the climate change regime formation, providing an analysis of climate regime formation through the institutional bargaining model. At last, the problem of the implementation of the Kyoto Protocol is discussed in Chapter 6. Chapter 7 is the final conclusion.

2. Institutional Bargaining: The Process-Oriented Negotiations

2.1 Introduction

Growing out of the globalism and interdependence literatures from the 1970s,¹⁷ the regime theory, with the consistent self-justification and efforts against the realism's critique,¹⁸ has come along with its productive analysis and explanatory capacity on collective action problems.

As of today the regime theory is much more productive and heterogenic than before. Regime theory now directs much attention to the process and has progressed toward a broader and context-laden analysis such as institutional bargaining and epistemic community literatures.¹⁹ It not only questions on the regime analysis of rationalist which only focuses on "configurations of preferences or capabilities among states" but also challenges the conventional state-centered locus.²⁰ The current "the turn to process" has introduced more of the situational context which can provide a rich set of tools for analyzing causal mechanisms beyond the rationalist's assumption and also brought in the role of non-state actors in the regime analysis.

The institutional bargaining model has exemplified this development of process-oriented regime theories. It comes up with a range of propositions associated with the process itself such as a veil of uncertainty, exogenous shock or crisis, a salient solution, an effective compliance

¹⁷ Interdependence in world politics refers to situations characterized by reciprocal effects among actors. There are two types of interdependence: sensitivity and vulnerability interdependence. The former addresses how interdependence affects a country within a given framework of policies; the latter refers to an actor's liability to suffer costs imposed by external events even after policies have been altered. See Robert O. Keohane and Joseph S. Nye (1989) *Power and Interdependence: World Politics in Transition*, 2nd edn (Glenview, IL: Scott, Foresman).

¹⁸ Oran R. Young, ed. (1997) "Regimes as Governance Systems," *Global Governance: Drawing Insights from the Environmental Experience* (Cambridge: The MIT Press):28-28,37.

¹⁹ Young, ed., *Global Governance: Drawing Insights from the Environmental Experience*.

²⁰ Ibid.

mechanism, equity and leadership. These factors decide how the negotiations evolve and whether a regime formation succeeds or not. Below are the sources, main concepts and successful factors of the institutional bargaining model presented.

2.2 The Origins of Institutional Bargaining:

The emergence of the concept of institutional bargaining in 1989 mainly stems from Oran R. Young's critique of current mainstream regime models, namely rationalists and cognitivists.²¹ The realist or neorealist emphasizes the existence of the dominant actors or hegemons possessing structural powers is a necessary condition for international regime formation or maintenance.²² The liberal-institutionalism contends that a sizable number of self-interested states would coordinate their behaviors to maximize absolute gains by devising mutually beneficial institutional arrangements reducing transaction costs.²³

Besides, by its critiques of rationalists, the reflectivists also take a seat in IR theory. The cognitive theorist upholds that it is the role of cognitive factors that influence the regime formation.²⁴ The discursive approach argues that much attention should be paid into discursive practices by pinpointing how information and policy options are framed and interpreted, and interactive dynamics between power and knowledge.²⁵ The critical political economy approach highlights the role of the underlying power structures of world politics beyond rationalist' assumptions.²⁶

Although these schools demonstrate different angles and predictions of achieving the regime formation, none of them can adequately reflect the real situation of negotiating institutional arrangements. Thus, due to both the intrinsic flaws in the rationalist schools and the dissatisfaction with them, the institutional bargaining model has been created and undertaken to offer much realistic and broader explanations of regime formation.

2.2.1 Critique of Realist or Neorealist Model

Through a lens of materialism to see this world, the neorealism treats the distribution of capabilities or the configuration of powers amongst states as the pivotal element of producing and deciding the arrangement of the international system. The states, as unitary actors, have to strive for their survival competing in anarchic world politics with possible conflicts or wars followed.²⁷ Under anarchy's constraints, international cooperation among states by institutions or regimes is rarely realized.²⁸ For realists, any institution or regime is only regarded as a reflection of the distribution of capabilities or the preference of actors.²⁹ The realist Carr claims that norms are merely "the unconscious reflections of national policy based on a particular interpretation of national interests at a particular time" or the "transparent disguises of selfish

²¹ The initial ideas of institutional bargaining appear in Oran R. Young (1989) "Praxis: Institutional Design in International Society," *International Cooperation: Building Regimes for Natural Resources and the Environment*. The formal declaration of this concept is seen in Oran R. Young, "The Politics of International Regime Formation: Managing Natural Resources and the Environment," *International Organization* 43 (Summer 1989), 349-375. Also, in Oran Young (1994) "Institutional Bargaining: Creating International Governance Systems," *International Governance: Protecting the Environment in a Stateless Society*.

²² Robert O. Keohane (1984) *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton, NJ: Princeton University Press).

²³ Robert O. Keohane (1989) *International Institutions and State Power: Essay in International Relations Theory* (Boulder Col.: Westview).

²⁴ Peter M. Haas (1995) "Epistemic Communities and the Dynamic of International Environmental Co-Operation," and Christer Jönsson (1995) "Cognitive Factors in Explaining Regime Dynamics," in Volker Rittberger (ed.) *Regime Theory and International Relations* (Oxford: Clarendon Press).

²⁵ Karen T. Littfin (1994) *Ozone Discourses: Science and Politics in Global Environmental Cooperation* (New York: Columbia University Press):12-13.

²⁶ Matthew Paterson (2001) *Understanding Global Environmental Politics: Domination, Accumulations, Resistance* (New York: Palgrave).

²⁷ Kenneth Waltz (1979) *Theory of International Politics* (Addison-Wesley: Reading, Mass.).

²⁸ Joseph M. Grieco (1988) "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism," *International Organization* 42 (August):486.

²⁹ Robert Gilpin, *War and Change in World Politics* (New York: Cambridge University Press, 1981).

vested interests.”³⁰ The regime theories are somewhat naïve and ignorant of the underlying structural power relationship in an interstate system as Strange criticizes that regime theory is only a fad, imprecise and woolly, value-biased and static epiphenomena.³¹

Nevertheless, realism does not deny the existence of regimes. The regime might appear only when a leading actor who possesses a preponderance of material resources create the desirable institutional arrangements as a tool of controlling the situation and gaining the maximum profits. As hegemony stability theory contends, the presence of a hegemon constitutes a critical condition for regime formation. For example, a large number of international regimes were formed under the leadership of the United States after World War II.³² Although the hegemony can secure the public good such as security and economic stability, Keohane also points out that “cooperation after hegemon” still can happen once the hegemony is on the decline.³³ Young supplements this claim and shows “cooperation without hegemon” by taking some empirical cases such as northern fur seals regime, Antarctica regime and pollution-control regime for the Mediterranean Basin in which the leading state is unable to dominate others.³⁴ Other than states, intergovernmental organizations (IGOs) and nongovernmental organizations (NGOs) also can lead the efforts to form environmental governance systems such as the role of UNEP in the ozone regime.³⁵

Furthermore, owing to higher level of interdependence, the ability of states to attain their objectives would be also affected by the actions of others. “At higher levels of interdependence, the opportunity costs of not co-ordinating policy are greater, compare to the costs of sacrificing autonomy as a result of making binding agreements.”³⁶ Young accords with this by stating that in light of the growing international interdependence, great powers will risk of taking high opportunity costs when exercising power because they always participate in a number of policy arena simultaneously. Thereby they would rather negotiate the terms of international regimes than impose them in some specific situations.³⁷ Also, it is especially true when most situations of coordination of policies are involved with other actors possessing the veto powers which can block the intended arrangements of great powers. Small countries join the international organizations or agencies to increase their relative power compared with larger states. By means of voting they also exert influence on institutional arrangements.³⁸ Examples include the control of radioactive fallout and climate change regime.

What is importantly, the most tricky problem with the hegemon approach lies in “how power should be measured and as to whether or not a hegemon actually exists,”³⁹ and how to translate structural power into “power in the sense of the ability to determine collective outcomes.”⁴⁰ On the whole, though the importance of power is undeniable, the hegemon approach is insufficient to account for those situations in which cooperation or institutions can exist without any display of structural powers. Often it ignores the restraints from higher levels of interdependence and other actors’ competing leverages.

³⁰ E. H. Carr (1981) *The Twenty Years’ Crisis, 1919-1939: An Introduction to the Study of International Relations* (London: Macmillan):87,88.

³¹ Susan Strange, “Cave! Hic dragones: a critique of regime analysis,” in Stephen D. Krasner (ed.) *International Regime* (Ithaca and London: Cornell University Press, 1986).

³² Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton, NJ: Princeton University Press, 1984)

³³ Keohane, *After Hegemony*, p. 49.

³⁴ Oran R. Young, “Institutional Bargaining : Creating International Governance Systems,” *International Governance: Protecting the Environment in a Stateless Society* (Ithaca and London: Cornell University Press, 1994):88.

³⁵ Ibid.

³⁶ Robert O. Keohane, “ The Analysis of International Regimes,” in Volker Rittberger (ed.) *Regime Theory and International Relations* (Oxford: Clarendon Press, 1995):35.

³⁷ Young, *International Governance*, p ,89.

³⁸ Joseph M. Grieco (1996) “State Interest and Institutional Rule Trajectories: A Neorealist Interpretation of the Maastricht Treaty and European Economic and Monetary Union,” in Benjamin Frankel(ed.), *Realism: Restatements and Renewal*(London: Frank Press):304.

³⁹ Ian H. Rowlands (2001) “Classical Theories of International Relations,” in Urs Luterbacher and Detlef F Sprinz(ed.), *International Relations and Global Climate Change*(Cambridge: The MIT Press):46.

⁴⁰ Young, *International Governance*, p ,89.

2.2.2 Critique of Utilitarian (neo-liberal) Models

Borrowed from the concept of modern economic theories, the neoliberal institutionalism depicts states as rational egoists who only strive to reach the absolute gains in situations resembling the Prisoner's Dilemma by means of the creation of regimes. The reason lies in regimes can facilitate cooperation by providing states with information or reduce their information cost.⁴¹ The rationality of actors allows them to calculate cost and benefits of alternative courses of action in order to maximize their utility in view of their ordered preferences.⁴² These rational choice perspectives (Prisoner's Dilemma, theories of collective action, and theories of market failures), regarded as "utilitarian models" by Young, have ignored real obstacles or difficulties in which negotiators virtually encounter during their negotiation of better possible agreements. Young contends that the analytic devices of utilitarian models are inappropriate to account for international regime formation because "[a]ll this [utilitarian] work takes as its point of departure either an Edgeworth box [see Figure 1.] with its depiction of well-defined contract curve or a game-theoretic formulation with its identification of a well-defined negotiation set."⁴³

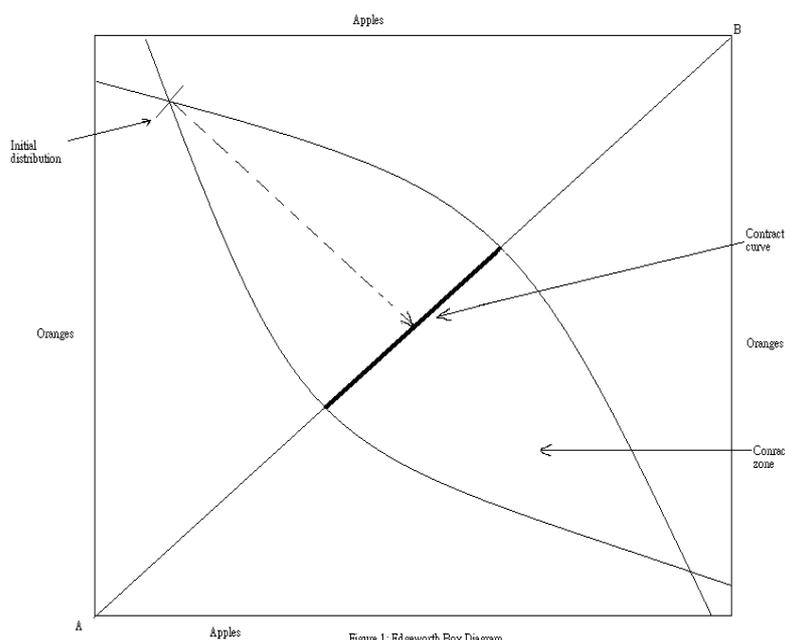


Figure 1: Edgeworth Box Diagram

The utilitarians produce almost perfect assumptions such as known identity of the participants, fully specified strategies available to the parties, known feasible combination of choices, and fixed and identified preferences among the parties. These assumptions make them possible to identify the contours of a zone of agreement, which is good for analysis but does not meet the true situations in the real-world bargaining.⁴⁴ In the real bargaining arena, as Young argues, the negotiators faced with choice alternatives are often uncertain about their future positions and interests due to the presence of imperfect information.⁴⁵ This 'good' uncertainty would facilitate and create a condition that enables actors to form regime.⁴⁶ This argument obviously is a rebuttal to the critique of rationalist by Dimitrov who states that "if reliable information is not even necessary for collective action, rational choice theorizing would lose one of its major premises."⁴⁷

Also, other criticisms of rationalist have been levied by reflective theorists and social constructivist. Paterson points out that "the rational choice version of regime theory is simply

⁴¹ Robert O. Keohane, *After Hegemony*, p. 68,97,245

⁴² Ibid.,27.

⁴³ Young, *International Governance*,p,92,93.

⁴⁴ Ibid.,93.

⁴⁵ Ibid.,107.

⁴⁶ Ibid.,102.

⁴⁷ Radoslav S. Dimitrov "Knowledge, Power, and Interest in Environmental Regime Formation," *International Studies Quarterly* 47(1) (March 2003):124.

empirically implausible.” For example, in the climate negotiations, states often behave in a way contrary to the rationalists’ assumptions. “[S]tates have simply not had clearly articulated, consistently ordered preferences with regard to climate change.”⁴⁸ More plausibly is that state might intersubjectively search for new institutional arrangements to deal with climate change, as Wendt emphasizes that any institutions are expressions of intersubjectively shared norms, ideas, and knowledge among states.⁴⁹ Opposite to contractarian perspective, the interests, preferences and even identities of states are socially produced and changeable. These interests and identities might be affected and even shaped by institutions.⁵⁰ Rather than exogenously given, interests and identities are endogenously produced among state’s social practices and interactions.⁵¹

Apart from problematic rational assumption of calculus, in the real politics of regime formation, negotiators frequently preoccupy abundant considerations or counter obstacles in settling on the institutional arrangements. These difficulties regularly come from strategic behavior or committal tactics, domestic disagreement,⁵² trade-off agreements from linkages among issue areas and the problems of noncompliance, verification and punishment mechanisms, etc.,⁵³ The utilitarian models have dismissed these concerns about real-world collective-action problems. Therefore, during the negotiation of regime formation, down to the real bargaining situations, rather than the specification of a well-defined contract curve or negotiation curve, is the key to the comprehension of the creation of international governance systems.

2.2.3 Critique of Cognitivist Models

Based on the non-material views, the cognitive theory – informed by social constructivism- emerges from its critique of the rationalist’s objective thinking of the world. They dismiss the rationalists who “treat states’ identities and interests as exogenously given, i.e. as non-theorized initial conditions in explanations of international phenomena.”⁵⁴ They claim that actors’ understanding of the world is shaped by their belief systems, operational codes and cognitive maps, which play a more decisive role of shaping institutional arrangements.⁵⁵ Peter Haas suggests that existing regimes, which arise out of shared need, knowledge and interest, may contribute to a learning process that enhances the prospects for convergent state policies.⁵⁶ “The role of a form of social learning that can give rise to consensual knowledge-ordinarily of the scientific variety”⁵⁷ could constitute a sufficient factor producing a successful regime. This social processes embedded in regimes with an occurrence of “intersubjective consensus” among the participants will undergo what Emanuel Adler termed “cognitive evolution.”⁵⁸

During the process of cognitive evolution, the epistemic community which is “a knowledge-based network of specialists who share beliefs in cause-and- effect relation, validity

⁴⁸ Matthew Paterson (2001) *Understanding Global Environmental Politics: Domination, Accumulations, Resistance*(New York: Palgrave):15.

⁴⁹ Wendt Alexander (1992) “Anarchy is What States Makes of it: The Social Construction of Power Politics,” *International Organization* 46, no.2:391-425.

⁵⁰ Oran R. Young,ed (1997) *Global Governance: Drawing Insights from the Environmental Experience*(Cambridge: The MIT Press): 276.

⁵¹ Wendt Alexander, “Anarchy is What States Makes of it: The Social Construction of Power Politics,” 396.

⁵² Robert D. Putnam, ‘Diplomacy and Domestic Politics: The Logic of Two-Level Games,’ *International Organization* 42 (Summer 1988):427-460.

⁵³ Ibid.,91-92.

⁵⁴ Andreas Hasenclever, *Theories of International Regimes*,p.136.

⁵⁵ Peter Haas, “Introduction: Epistemic Communities and International Policy Coordination,” *Knowledge, Power and International Policy Coordination* (South Carolina: University of South Carolina Press, 1992):28-29.

⁵⁶ Peter M. Haas, “Do Regimes Matter? Epistemic Counties and Mediterranean Pollution Control,” *International Organizations*, 43(3) (Summer 1989): 378.

⁵⁷ Young, *International Governance*, p. 95.

⁵⁸ The Cognitive Evolution includes three dimensions: innovation, selection and diffusion. See Emanuel Adler, “Cognitive Evolution: A Dynamic Approach for the Study of International Relations and Their Progress,” in Emanuel Adler and Beverly Crawford, ed., *Progress in Postwar International Relations* (New York: Columbia University Press, 1991):43-88.

tests, and underlying principled valued and pursued common policy goals,”⁵⁹ serves as a driving engine of innovating new values and expectations for regime design. Put simply, the expert knowledge of the epistemic network can assist in devising the institutional arrangements and facilitate the international policy coordination regarding science-driven environmental issues. Cases in point are the whaling, ozone and food aid cooperation in which the role of the epistemic community is undeniably important.⁶⁰

However, the criticisms of the epistemic community school have been levied by other critical theorists and constructivists such as Paterson and Litfin. First, Paterson argues that modern scientific rationality and scientific institutions constitute the underlying structural causes of global environmental problems, rather than being part of solution. He criticizes that the science-and-knowledge-based advocates have ignored the weighty influence of capitalism and modern state, and patriarchic power structures which crucially implicated in the generation of environmental problem.⁶¹ Another social-constructivist, Litfin, is also critical of the idea of objective science. She proposes a discursive perspective as an alternative to both realist and liberal approaches when she finds discursive practices a useful explanation of ozone case. She argues that the epistemic community literatures ignore that scientific consensus and knowledge tend to be maneuvered by politics where knowledge brokers come in and usually be “framed in light of specific interests and preexisting discourses.”⁶² That is, they “tend to work from a simplistic view of science as standing outside of politics, of knowledge as divorced from power.”⁶³

Therefore, much attention should be paid into the power-knowledge nexus in the international regimes in order to avoid the inflated expectations of explanatory capacity from objective knowledge. In the same vein, Miller and Edwards has worked on the relations regarding the co-production of science and politics in climate change. They found that the boundary between science and politics is blurred. As a result, the legitimacy and credibility of expert knowledge were lost.⁶⁴ One possible remedy is to call for “civil science,” allowing the citizens as the stakeholder in the science-politics interface.⁶⁵

However, concerning these science-politics comments, Young contends that most discussions of the politics of knowledge have shown that “it lacks a clear picture of the bargaining process through which the provisions of international regimes are ultimately hammered out among the participants.”⁶⁶ He further highlights a fact that “the process through which parties converge toward a mutually agreeable constitutional contract is dominated by hard bargaining among those who have a clear sense of both the nature of the problem and their interests.” That is, it is diplomats rather than scientists that decide the outcome of the agreement. The independent force of idea might play a larger role in the pre-negotiation stage, but during the hard bargaining over the specific institutional arrangement “ideas are more likely to be exploited for political advantage than to play an independent role in guiding the process.”⁶⁷

On the other hand, even when the role of ideas becomes salient, the inability to test them empirically still limits their efforts to account for successes and failures in the process of regime formation. Young claims that testing both the idea of consensual knowledge and the concept of epistemic communities is far from feasible. “It is hard to determine when knowledge becomes consensual and whether an epistemic community is present in some fashion that is independent of the outcome of the process itself.”⁶⁸ More often than not, the fact is that the bargaining

⁵⁹ Haas, *Knowledge, Power and International Policy Coordination*. p, 187.

⁶⁰ Ibid.

⁶¹ Matthew Paterson(2001) *Understanding Global Environmental Politics: Domination, Accumulations, Resistance*(New York: Palgrave):50-51.

⁶² Karen T. Litfin (1994) *Ozone Discourses : Science and Politics in Global Environmental Cooperation*(New York: Columbia University Press):6.

⁶³ Ibid.,4.

⁶⁴ Clark A. Miller and Paul N. Edwards, ed.(2001) *Changing the Atmosphere: Expert Knowledge and Environmental Governance*(Cambridge: The MIT Press).

⁶⁵ Karin Bäckstrand (2003) “Civic Science for Sustainability: Reframing the Role of Scientific Experts, Policy-makers and Citizens in Environmental Governance,” *Global Environmental Politics* 3(4):24-41.

⁶⁶ Young, *International Governance*, p.97.

⁶⁷ Ibid., 98.

⁶⁸ Ibid., 96.

process is dominated by hard bargaining among diplomats who have to uphold their own interests as Young asserts that “the independent role of idea tapers off as the process of regime formation moves to the negotiation stage.”⁶⁹ The study of the creation of UNFCCC also shows that during the actual negotiation of the Convention, the IPCC did not have a substantial effect on the actual negotiations.⁷⁰

In all, “the cognitivists have not developed a model of the process through which social learning leads to convergence around mutually agreeable provision of international regime. They are often insensitive to the manipulation of knowledge by politically motivated actors as well.”⁷¹

2.3 The Features of Institutional Bargaining:

These critiques of rationalists and cognitivists by Young, perspectives of social constructivist, discursive and critical theorists have shown that the realism, neoliberal institutionalism and cognitivism schools of regime analysis though accounting for some features of the regime formation, the embedded flaws among them have prevented a satisfactory explanation of the process of regime formation, especially of the negotiation stage of the process. Also, as Jönsson contends that most regime theories have depicted the conditions in which the regime is formed and *why* states cooperate, but neglected the process of regime creation and the elaboration on *how* states cooperate.⁷² Thus, there is a need for an alternative model, the institutional bargaining model, to shed more light on the process of regime formation and identify possible implications for regime implementation. Basically the assumptions of this model conform to the interest-based regime analysis. Apart from this underlying trait shared with the mainstream utilitarian accounts of bargaining process, several characteristics of institutional bargaining are laid out as follows.

2.3.1 Multiple Actors and Consensus Rules

Generally, there are several actors involved with devising the international regimes. For example, there are four states in the fur seal regime, or even more than 150 parties to the deep seabed mining regime. Two-side bargaining processes by grouping the players into two blocs as the Edgeworth box presents is helpful for analysis, however, it cannot take us into the politics of international regime formation.⁷³ Also, institutional bargaining operates on the basis of a consensus rule. That is, with the exclusion of actors opposing or resisting the negotiation of institutional arrangements, the rest of members involved with negotiating will put efforts to come up with arrangements which require all parties’ approvals. Although practically it is hard to reach the unanimous agreement, the rule of unanimity is acknowledged as a basis for the legitimacy of the institutions. If the agreement is imposed, it would negate the legitimacy of the institution-building.⁷⁴ Therefore, a consensus rule is applied in the institutional bargaining to avoid the lack of the legitimacy.

2.3.2 Mixed-Motive Bargaining

There are two kinds of motives involved with the negotiations: distributive (or positional) bargaining and integrative (or productive) bargaining. The typical bargaining theory generally focuses on the issues of distributive bargaining which assume negotiators have known what they will possibly gain through calculations concerning strategic behaviors or committal tactics. That is, they will seek to achieve a favorable outcome on the known “locus of a contract curve or

⁶⁹ Ibid., 97-98.

⁷⁰ Daniel Bodansky (2001) “The History of the Global Climate Change Regime,” in Urs Luterbacher and Detlef F. Sprinz (ed.) *International Relations and Global Climate Change* (Cambridge: The MIT Press): 37.

⁷¹ Young, *International Governance*, p.116.

⁷² Christer Jönsson, “Diplomacy, Bargaining and Negotiation,” in *Handbook of International Relations*. ed. Walter Carlsnaes, Thomas Risse and Beth A. Simmons(London: SAGE,2002).

⁷³ Young, *International Governance*, p.99.

⁷⁴ Geoffrey Brennan and James M. Buchanan (1985) *The Reason of Rules: Constitutional Political Economy* (Cambridge: Cambridge University Press):27-28.

shape of a welfare frontier”.⁷⁵ The gain of one from bargaining means the loss for the other. However, Young emphasizes that a successful regime formation relies on how much the integrative bargaining is explored in the negotiation. The key to the integrative bargaining lies in the absence of a fixed contract curve or negotiation set. Due to negotiators’ little understanding of the contours of the contract curve or the locus of the negotiation set, i.e., uncertain about the available strategies, possible outcomes and core interests,⁷⁶ they will try to “engage in exploratory interactions to identify opportunities for devising mutually beneficial deals.”⁷⁷

That is, they will seek to explore more possibilities since they are not on the distributional positions. In the way of moving from “the distribution of fixed payoffs” to the cooperative “production of expanded benefits,”⁷⁸ it is more likely to reduce the distributional aspect of the bargaining which usually results in stalemates. Therefore, Young argues “that regime formation in international society typically centers on integrative (or productive) bargaining.”⁷⁹ In the climate change case, whether it is conducive to integrative or distributive bargaining rests upon the degree to which the participants approach the negotiations as a process of integrative bargaining or distributive bargaining.⁸⁰ More importantly, it is the factor of uncertainty that plays a role in mediating the distributive concerns with respect to the global warming. Therefore, as the level of uncertainty is reduced, specifically with the latest scientific proofs unveiled, the identification of probable winners and losers becomes possible and thereby the distributive bargaining will arise.

2.3.4 The Veil of Uncertainty

Uncertainty may arise because of incomplete information or from linguistic imprecision. Uncertainty may be about a quantity or about the structure of a model. As well as we may be uncertain about what we like, i.e., our preferences, and what to do about it, i.e., our decisions while facing with choice alternatives.⁸¹ Young asserts that a veil of uncertainty can give rise to more possibilities of reaching agreements. Regularly the parties to institutional bargaining act under a veil of uncertainty regarding their own future positions and interests.⁸² When facing with choices among rules, “it is much more difficult for a person to determine which of the several choice options confronted will, indeed, maximize whatever set of values that person desired to maximize.”⁸³ The reason is that when a person faces choices among rules or institutions, he or she would suffer from the “loss of interest identity.”⁸⁴

If we extend the dairy farmer case⁸⁵ which Buchanan takes to illustrate this idea into the climate change case, for example, an oil company manager when confronting choices at two levels would less easily identify his interests. He might oppose to a specific reduction in oil subsidy due to its direct loss of net wealth. However, meanwhile he might agree to a generalized rule that would eliminate political interference with any and all prices for goods because the effect of this is less determinate than subsidy reductions. Therefore, a veil of uncertainty is produced “[a]s both the generality and the permanence of rules are increased, the individual who faces choice alternative become more uncertain about the effects of alternatives on his own position.”⁸⁶

Moreover, when a negotiator is uncertain as to what his or her position will be under separate choice options, he or she will “tend to agree on arrangements that might be called ‘fair’

⁷⁵ Young, *International Governance*, p.100.

⁷⁶ Andreas Hasenclever, Peter Mayer and Volker Rittberger (1997) *Theories of international regimes* (Cambridge : Cambridge University Press) : 72.

⁷⁷ Young., *International Governance*,p.101.

⁷⁸ Andreas Hasenclever, *Theories of international regimes*,p.72.

⁷⁹ Oran R. Young (1989) “The Politics of International Regime Formation: Managing Natural Resources and the Environment,” *International Organization* 43:361.

⁸⁰ *Ibid.*,43.

⁸¹ M. Granger Morgan and Max Henion (1990) *Uncertainty : A Guide to Dealing with Uncertainty in Quantitative Risk and Policy Analysis*(Cambridge: Cambridge University Press):47.

⁸² Andreas Hasenclever, *Theories of international regimes*,p.73.

⁸³ Geoffrey Brennan and James M. Buchanan, *The Reason of Rules: Constitutional Political Economy*,p.29.

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*,29-30.

in the sense that patterns of outcomes generated under such arrangements will be broadly acceptable.”⁸⁷ Virtually this is associated with the idea of John Rawls’s “justice as fairness.” However, Buchanan points out that though the veil of uncertainty is related to Rawls’s “veil of ignorance,” it is not identical. The former “may be approached, if never fully realized, but the latter is purely hypothetical thought experiment.”⁸⁸ Noticeably, the uncertainty promoted by Young is different from Keohane’s account of uncertainty while both of them are productive. “In Keohane’s account uncertainty (together with the possibility of joint gains) *motivates* states to create regimes which serve to *reduce* uncertainty (asymmetrical information),” but for Young, “uncertainty is a condition which *enables* actors to form regimes” as he argues that “[t]his ‘good’ uncertainty actually facilitates efforts to reach agreements on the substantive provisions of institutional arrangements.”⁸⁹

2.3.5 Problems and Approaches

Rather than perfect their information about the exact contract zones, negotiators typically focus on a few key problems, come up with some approaches to deal with these problems and try to reconcile differences among these approaches. Besides, a negotiating text will be produced and served to organize the negotiations and guide the extension of a regime over time while the process is in the stage of reconciling different approaches. For example, in climate change negotiations, as Chasek points out, the drafting/formula-build phase is characterized by negotiations on a draft text. At the fifth Ad Hoc Group on the Berlin Mandate (AGBM), delegates requested the chair and the secretariat to prepare the framework compilation text which serves as an important basis for drafting the Kyoto Protocol. Until the AGBM-8, Chair Raul Estrada introduced a consolidated negotiating text that facilitates completion of the protocol though the delegates still have no agreement on any alternatives presented in the chair’s draft this time.⁹⁰

2.3.6 Transnational Alliances

Since states are composed of numerous groups with divergent interests, it is normal that the internal splits often occur. When these conflicts are involved with not only intra-party bargaining but also inter-party bargaining, of interest is that situations of this kind would generate the development of transnational alliances among influential interest groups playing an important role of specific regime formation.⁹¹ With the assistance of communication technology, the transnational networks of scientific or environmental communities have facilitated and induced the several environmental regime formations such as the role of scientists in the pollution-control regime for the Mediterranean, or the transnational environmental community’s efforts in pushing endangered species regime, or joint efforts from scientific and environmental groups in developing the Antarctica regime.⁹² In addition to the scientific community, the “organizations that serve to aggregate and articulate the concerns of transnational interest groups regarding international regimes”⁹³ also play a critical role in devising regime such as the role of UNEP in the ozone regime.

2.3.7 Shifting Involvements

The institutional bargaining “almost always features a rich array of linkages to other events occurring in the socioeconomic or political environment.” These linkages can pose an obstacle for a regime creation such as delaying the time, complicating the negotiations by linking several issues, struggling in the domestic matters or simply escaping the current issues. On the other hand, these linkages may be positive for regime formation. They may open up more possibilities for mutually acceptable arrangements by means of creating package deals such as the package deals incorporated in the 1982 law of the sea convention. Besides, facing with numerous issues simultaneously, those who are unable to handle this situation may be willing to borrow the assistance of NGOs to facilitate the regime formation such as the role of

⁸⁷ Ibid.,30.

⁸⁸ Ibid.,30-31.

⁸⁹ Young., *International Governance*,p.102.

⁹⁰ Pamela S. Chasek, *Earth Negotiations: Analyzing Thirty Year of Environmental Diplomacy* : 213-214.

⁹¹ Young., *International Governance*,p.103-104.

⁹² Ibid.,104.

⁹³ Ibid., 104.

NGOs in polar bears and trade in endangered species regime.⁹⁴

2.3.8 Summary

With a departure from the rationalists, institutional bargaining theory casts light on identifying the *process* of regime formation and *how* actors coordinate their common interests to devise mutually acceptable arrangements. Although its basic assumption adheres to neo-liberal institutionalism, the concept of institutional bargaining is in a much broader liberal-institutional tradition. Not stick to fixed assumptions of game theory/utilitarian model, institutional bargaining model, combined with the concept of a *veil of uncertainty* and *consensus rule*, attempts to identify how actors find out more possibilities for cooperation by means of *integrative bargaining*. It highlights the problems of *saliency*, *compliance* and *equity* embedded in the institutional arrangements which most regime theories (except the political economy school) ignore.

Of significance is that it gets rid of state-centered critiques while the *multiple actors*-states, IGOs, NGOs or other transnational alliances- put efforts to produce the institutional arrangements. Also, it incorporates the situational factors, i.e., *exogenous shock or crisis*, and the role of *leadership* into accounting for the successful institutional bargaining. In this fashion, Young's institutional bargaining approach is rather than traditional neoliberal institutionalism as Hasenclever claims that "his neoliberalism has to be qualified."⁹⁵ In essence, institutional bargaining model is more an analytic concept in attempt to bridge the disparity between the collective-action and social-practice models of social institutions,⁹⁶ in effort to offer an integrated perspective for explaining the regime formation.

2.4 The Determinants of Success in Institutional Bargaining

Faced with numerous impediments or stalemates, the interest-maximizers strive to devise the favorable institutional arrangements pertaining to specific issue areas. However, these efforts fail to guarantee the success of regime formation. Thus, how to make sure a successful regime formation through institutional bargaining becomes the most challenging and also a practical task. Below the hypotheses that induce the success or failure in efforts to form institutional arrangements in the institutional bargaining are identified.

2.4.1 Contractarian Environment

"Institutional bargaining can succeed only when the issues at stakes lend themselves to treatment in a contractarian mode."⁹⁷ Under a veil of uncertainty and integrative bargaining, negotiators aim at reaching agreement on the terms of a social contract in order to solve the collective-action problems. Also, in a consensus-ruled situation, it is necessary to avoid the positional deadlocks which often occur in this contractarian environment. Thus, collective-action problems which will be solved through devising institutional arrangements "vary in the degree to which they lend themselves to treatment in contractarian terms."⁹⁸

2.4.2 Equity

"The availability of arrangements that all participants can accept as equitable is necessary for institutional bargaining to succeed."⁹⁹ Rather than emphasis on the achievement of allocative efficiency by utilitarian models, much attention should be paid to equity when the negotiating environment features a consensus rule. The institutional bargaining can succeed only when all the major parties and interest groups agree that their concerns have been treated fairly. For example, the polluter-pay principle and the concept of "common but differentiated responsibilities" envisaged in the Kyoto Protocol manifest the importance of the equity considerations during the climate regime formation.

2.4.3 Salient Solutions

"Identification of salient solutions (or focal points) describable in simple terms increases

⁹⁴ Ibid.,105-106.

⁹⁵ Andreas Hasenclever, Peter Mayer and Volker Rittberger (1997) *Theories of international regimes* (Cambridge: Cambridge University Press):69.

⁹⁶ Oran R. Young (2002) *Institutional Dimension of Global Environmental Change: Fit, Interplay and Scale* (Massachusetts: MIT Press).

⁹⁷ Ibid.,107.

⁹⁸ Ibid.

⁹⁹ Ibid.,109.

the probability of success in institutional bargaining.”¹⁰⁰ Identifying salient solutions in simple terms will enhance the success in institutional bargaining. That is, “salience based on simplicity and clarity contributes to success in institutional bargaining involving numerous parties operating under consensus rules.” For example, the salience of the formula of across-the-board percentage cuts in the production and consumption of CFCs virtually contributes to the success of the ozone regime.

2.4.4 Effective Compliance Mechanisms

“The probability of success in institutional bargaining rises when clear-cut and reliable compliance mechanism are available.”¹⁰¹ A compliance mechanism is a system which monitors or verifies whether the behavior of a state, party to an international treaty, can actually conform to the conditions set out in the treaty. Compliance in most cases is a condition for effectiveness of the treaty.¹⁰² A successful institutional arrangement rests upon a clear-cut and reliable compliance mechanism to ensure the compliance of its members. As a rule, most cases of regime failures are due to distrust among parties. Thus, it is critical for a successful regime formation to develop “rules that are transparent in the sense that compliance with their requirement is easy to verify, as in the case of cuts in the production of CFCs.”¹⁰³ Also, this relatively simple compliance mechanism depends on the ability of states to fulfill their commitments of compliance when the supranational organization lacks its ability to monitor and finance.

2.4.5 Exogenous Shocks or Crises

“Exogenous shocks or crises increase the probability of success in efforts to negotiate the terms of governance systems.”¹⁰⁴ For example, the 1986 Chernobyl accident led to some of the provisions of a regime for nuclear accidents; the 1985 discovery of the ozone hole over Antarctica became a driving force in the ozone regime. With respect to the climate change, the 1988 hot summer in the North American gave a boost to the climate change issue in the US and Canada, especially for the convening of the Toronto conference. At the same year, *Time* magazine named the Earth “Planet of the Year.”¹⁰⁵ However, Young argues that “[t]alk of a creeping crisis with regard to global warming simply cannot produce the impact of the exogenous shocks [like Chernobyl accident and ozone hole] as a force in breaking the logjams that commonly arise in institutional bargaining.”¹⁰⁶

2.4.6 Leadership

“Institutional bargaining cannot succeed in the absence of effective entrepreneurial leadership on the part of individuals.”¹⁰⁷ The institutional bargaining is apt to succeed when individual leadership emerges and drives the negotiation process toward the completion of the final agreement. The leadership is defined as “an asymmetrical relationship of influence in which one actor guides or directs the behavior of others toward a certain goal over a certain period of time.”¹⁰⁸ There are three forms of leadership: structural leader, entrepreneurial leader and intellectual leader.¹⁰⁹ A structural leader is an individual who brings his party’s structural power to bear in the form of bargaining leverage. Rising out of self-interest, an international entrepreneur is an actor with skills of “inventing new institutional arrangements and brokering

¹⁰⁰ Ibid., 110.

¹⁰¹ Ibid., 111.

¹⁰² Michael Faure and Jürgen Lefevere (1999) “Compliance with International Environmental Agreement,” in Norman J. Vig and Regina S. Axelrod (ed.) *The Global Environment: Institutions, Law and Policy* (Washington: Congressional Quarterly, Inc.): 139.

¹⁰³ Ibid.

¹⁰⁴ Ibid., 112.

¹⁰⁵ Urs Luterbacher and Detlef F. Sprinz, ed. (2001) *International Relations and Global Climate Change*. (Cambridge: The MIT Press): 27.

¹⁰⁶ Young, *International Governance*, p. 113-114.

¹⁰⁷ Ibid., 114.

¹⁰⁸ Underdal, *Leadership Theory: Rediscovering the Arts of Management*, p. 178.

¹⁰⁹ Oran R. Young and Gail Osherenko (1993). *Polar Politics: Creating International Environmental Regimes* (Ithaca : Cornell University): 18.

the overlapping interests of parties concerned with a particular issue.”¹¹⁰ An intellectual leader makes use of the power of ideas to influence the bargaining process. The emergence of any type of these leaderships will be crucial to success in regime formation.

2.5 Theoretical Limitations

There are several limitations of the “institutional bargaining” model. As Hasenclever et.al have criticized, the number of cases of testing of institutional bargaining model is still quite small (mainly in Arctic region) and selection bias may exist.¹¹¹ That is also why Young and Osherenko encourage that further empirical studies are needed to test and enrich this theory. Besides, it requires great effort to examine some hypothesis of this theory as Young’s research team encounters difficulties in, for example, applying an *equitable solution* hypothesis. There is a problem of “determin[ing] how constraining or selective with respect to the universe of cases the conditions hypothesized as necessary or facilitating really are” in the hypothesis of institutional bargaining model.¹¹² Thus, it is essential to both clarify the independent variables in this model and apply them meaningfully.

As Stokke points out that propositions such as leadership, saliency and equity “sometimes tend to balance on the verge of circularity: depending on how such propositions are specified and operationalized, it may be very difficult in given empirical contexts to distinguish them from their hypothesized impact.” Even “if the propositions are empirically permissive, they can easily become overly robust to empirical scrutiny.”¹¹³ Third, a flaw occurs in the logical structure of this approach due to the blurred distinction between theoretical assumption and hypothesis derived from this model. As Andreas points out, “integrative bargaining and the veil of uncertainty seem to have lost their special status as theoretical assumptions and are treated as just two interest-based variables among several.” It risks of “ending up with a mere list of variables which provides [students of regimes] with no clue whatsoever as to how to construct theory” if we do not separate the core assumption from hypothesis.¹¹⁴

2.6 Summary

Rising out of the critiques of the realist and utilitarian theories, the institutional bargaining model represents a process-oriented and much broader interest-based regime theory. By focusing on the process and introducing situational context, the institutional bargaining approach helps us get a clear picture of how multiple actors exercise their bargaining leverages and coordinate divergent interests during the regime formation.

3. The Climate Change as a Political Problem

3.1 Introduction

When the Rio conference ends with the UNFCCC, the climate change issue, which is no longer a low profile issue, has turned out to be one of the most overarching environmental issues. Later, in 1997 the completion of the Kyoto Protocol epitomizes the international efforts on combating the global warming. However, all before these efforts, little political concern is paid into this issue. Therefore, looking back to how the climate change problem is critical and how it emerges as one of the international political agendas is of great importance.

3.2 The Nature and Impact of Global Warming

Global warming refers to “enhanced greenhouse effect” in which the increased inputs of CO₂ and other greenhouse gases (GHGs) such as methane (CH₄), nitrous oxide and halocarbons from human activities enhance the earth’s natural greenhouse effect and raise the average global temperatures of the atmosphere near the earth’s surface.¹¹⁵ Obviously the change of global temperatures is tied to the greenhouse effect.¹¹⁶ The greenhouse effect provides the

¹¹⁰ Young, *International Governance*, p.114.

¹¹¹ Andreas Hasenclever, Peter Mayer and Volker Rittberger (1997) *Theories of international regimes* (Cambridge : Cambridge University Press) : 78.

¹¹² *Ibid.*, 80.

¹¹³ Oran R. Young, ed. (1997) “Regimes as Governance Systems,” *Global Governance: Drawing Insights from the Environmental Experience* (The MIT Press):54.

¹¹⁴ *Ibid.*, 81.

¹¹⁵ G. Tyler Miller (2004) *Living in the Environment: Principles, Connections, and Solutions* (13th ed.)(Belmont: Thomson Learning, Inc):449-450.

¹¹⁶ The greenhouse effect refers to the greenhouse gases allow radiation from the Sun to pass through but then absorb radiation reflected back from the Earth’s surface, trapping heat in the atmosphere, thereby

majority of the energy required to support Earth system but it also leads to shifts in global climate system on account of the increasing GHGs emissions in the atmosphere.

Since the Industrial Revolution, human activities such as industry, heating and transportation and also deforestation have contributed to most of the GHGs in the atmosphere. Although “the direct relationship between rising temperatures, emission levels, higher concentrations of gases and, crucially their combined impact remain uncertain,”¹¹⁷ the latest IPCC TAR has confidently confirmed that the Earth is getting warmer. It is human activities that are blamed for the ongoing global warming trend and the negative impacts of climate change would accelerate as the rate and level of warming increased. The Basic Causal Loop Diagram¹¹⁸ of cause and impact of global warming is shown as Figure 2.

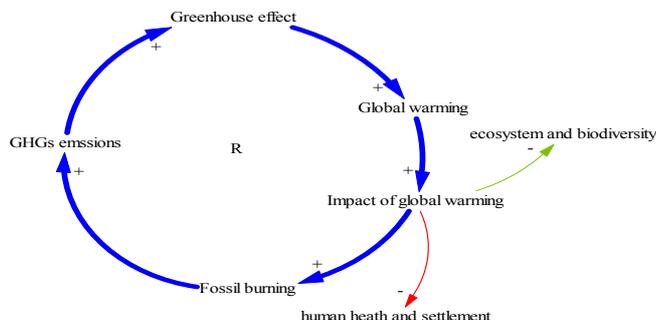


Figure 2. The Basic CLD of Global Warming

Beyond doubt, “the tragedy of the commons”¹¹⁹ would occur if no immediate actions were taken against global warming. Especially developing countries with high vulnerability would suffer a disproportionate share of the climate change consequences.¹²⁰ For example, rising sea levels would inundate many low-lying areas of high human population density such as Bangladesh. A lot of small low-lying island nations would be engulfed by rising water. This is the reason why the formation of Association of Small Island States (AOSIS) fights for strict emission-cutting proposals. In addition to sea level rise, other climate anomalies such as El Nino, floods, droughts and storms, etc., equally add risks to our lives. The impacts on human health, agriculture and natural ecosystems are not only a natural disaster but also a huge economic burden.¹²¹ Particularly the abatement measures to combat climate change tied to energy production and consumption, any of which reduced would wreck the economy.

3.3 The Climate Change and Energy Context

Historically, fossil energy, notably coal and oil, which produces primary electricity, contributes to the prosperity of industrialized states. However, the massive burning of fossil fuels has increased the GHGs emissions leading the global warming. Thereby curbing the sources of the GHGs emissions is a way to mitigate the rising temperatures. In order to do so, states have to meet “both the supply and demand sides of the energy equation.”¹²² That is, on the supply side the energy industries should shift renewable energy resources; on the demand side the industries and consumers need to reduce energy consumption through energy efficient measures. In practice, these efforts to shift our life styles toward sustainable usage of energy fail to change the governments’ traditional priority on economic interests and to overcome strong

resulting in the rising temperatures. See Neil Carter (2001) *The Politics of the Environment: Ideas, Activism, Policy* (Cambridge: Cambridge University Press):232. Also, See G. Tyler Miller, *Living in the Environment*, p.121.

¹¹⁷Ibid.

¹¹⁸ Hördur V. Haraldsson (2004) *Introduction to System Thinking and Causal Loop Diagrams*, Department of Chemical Engineering, Lund University.

¹¹⁹ G. Hardin (1968) “The Tragedy of the Commons,” *Science* 162: 1243-8.

¹²⁰Earth Negotiations Bulletin.vol.12 No.24, 7 November 1995. p,1.

¹²¹ Warwick J. Mckibbin and Peter J. Wilcoxon (2002) *Climate Change Policy after Kyoto: Blueprint for a Realistic Approach* (Washington: The Brookings Institution): 32-34.

¹²² Neil Carter (2001) *The Politics of the Environment: Ideas, Activism, Policy* (Cambridge: Cambridge University Press):303.

oppositions from business coalitions. For example, the Middle Eastern oil-exporting states and the United States with large energy exporting profits oppose a stringent regulation on cuts of fossil energy. Besides, the domestic energy industrial lobby and opposition also wield power by preventing the energy policy that would damage the energy profits. For example, Bill Clinton's "Btu tax" proposal failed due to strong fossil fuel lobby in Congress.¹²³

3.4 The Emergence of Scientific Consensus and Political Response

The climate change issue has been a key concern among scientific communities in past decades. In the early 1960s, the creation of Keeling curve which shows the increasing greenhouse gas in the atmosphere has led to the initial growth of scientific concern about climate change issue.¹²⁴ Nevertheless, the global community did not take the global warming problem seriously until the First World Climate Conference in 1979 was launched by the World Meteorological Organization (WMO). There, the Conference concluded that "it is now urgently necessary for the nations of the world: [...] to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity."¹²⁵

Six years later, in 1985 the Villach Conference was held by the WMO and UNEP with the aim of discussing the role played by GHGs in causing climate variations. It proposed that states should initiate consideration of developing a global climate convention. In 1987, the report *Our Common Future*, also known as the Brundtland Report, published by the World Commission on Environment and Development, paid considerable attention to the risks associated with anthropogenic climate change and also highlighted the importance of precaution principle.¹²⁶ In response to the call for action by the Brundtland Report, Toronto Conference was held in 1988. It came up with the *Toronto Target* which requested a reduction of the global CO₂ emissions by 20% before 2005. This historical target has a great influence on the later climate change regime formation. At the same year, the Intergovernmental Panel on Climate Change (IPCC) which is responsible for assessing the scientific information concerning climate change and making realistic response strategies was created under the joint auspices of the WMO and the UNEP.

Apart from its First Assessment Report (FAR) in 1990 for policy makers, more importantly, the emergence of the IPCC itself indicated that governments began to play a greater role in the climate regime. Since the set-up of the IPCC, climate change issue emerged as an intergovernmental issue in contrast to prior conferences in which were joined mostly by NGOs.¹²⁷ As the UN General Assembly showed its first concerns by adopting Resolution 45/53 in December 1988 and endorsed the role of the IPCC, the climate change formally became one of agendas of "high politics." Although in 1990 the Second World Climate Conference (SWCC) held in Geneva failed to establish any timetable or targets for GHGs emissions reduction, a political momentum for a legal regulation of climate change has been generated. With the IPCC and the SWCC calling for negotiations on a climate change convention, the UN General Assembly adopted Resolution 45/212, setting up the Intergovernmental Negotiating Committee (INC) to launch the negotiations on a climate treaty.¹²⁸

As a result, the UNFCCC was completed by the INC after five negotiating sessions between February 1991 and May 1992. The UNFCCC was adopted by the parties on May 9, 1992, open for signature during the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (Rio Earth Summit) in June 1992. It entered force on March 21, 1994. The UNFCCC stipulates its objective as achieving "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic

¹²³ Robert L. Paarlberg (1999) "U.S. International Environmental Policy Since Rio," in Norman J. Vig and Regina S. Axelrod (ed.) *The Global Environment: Institutions, Law, and Policy* (Washington D.C.: Congressional Quarterly Inc.):246.

¹²⁴ Urs Luterbacher and Detlef F. Sprinz, ed.(2001) *International Relations and Global Climate Change*. (Cambridge: The MIT Press):24.

¹²⁵ United Nations Environment Programme Information Unit for Climate Change Fact Sheet 213. <http://www.cs.ntu.edu.au/homepages/jmitroy/sid101/uncc/fs213.html>

¹²⁶ World Commission on Environment and Development (1987) *Our Common Future* (Oxford: Oxford University Press).

¹²⁷ Urs Luterbacher and Detlef F. Sprinz, ed.(2001) *International Relations and Global Climate Change*. (Cambridge: The MIT Press): 27-28

¹²⁸ Norman J. Vig and Regina S. Axelrod (1999) *The Global Environment: Institutions, Law, and Policy* (Washington: Congressional Quarterly Inc.):222.

interference with the climate system.”¹²⁹ The importance of the UNCCC lies in that it provided procedures and institutions as the future “playing field” for the later Kyoto negotiations.¹³⁰

3.5 Summary

The industrial activities with the products of greenhouse gases released into the atmosphere are the main culprits for the global warming. Due to the universality of the impact of climate change and the vulnerability of the poor state, the efforts to combat the global warming have to rely on international joint cooperation in global society. Of importance is that the actions to curb the GHGs emissions necessarily rest upon the fundamental policy change in energy sectors and the change of our modern lifestyles. Still, the energy industries carry a lot of weight over national energy policy. States with large energy profits continue to dog the process of climate regime formation. Even so, the scientific communities have noticed this issue since 1960s. A series of scientific meetings and intergovernmental conferences have set the agenda for negotiation of a climate convention. However, this critical issue did not catch much attention among states until the late 1980s.

4. Post-Rio Developments: From Rio to Kyoto Protocol

4.1 Introduction

The completion of the UNFCCC demonstrates the political wills and efforts among states to deal with climate change problem. However, the UNFCCC as the word of “Framework Convention” itself implies, just contain very general obligations and basically serves as a tool for further discussions. A lot of substantive issues are left such as the specific targets and timetables to curb emissions, financial assistance and technology transfer, and institutions and implementation mechanism. Rather than an end, the UNFCCC just embarks on the most debated negotiations of Kyoto Protocol.¹³¹ Thus, the post-Rio developments which further elaborate the substantive solutions are pivotal to the climate change regime. The post-Rio process begins from the ratification of the UNFCCC in 1994 to the completion of the Kyoto Protocol in 1997. In order to get a clear picture of this hard bargaining stage, the Kyoto negotiations were divided into seven phases: agenda setting, turning-point, issue definition, statement of positions, formula, detail phase, and implementation phase¹³² after the completion of the Kyoto Protocol. Below the negotiation process from the Rio to the first Conference of Parties (COP-1) in Berlin is first examined.

4.2 Agenda Setting Phase

Since the UNFCCC has offered an legal framework for future “playing field” for further elaborations on the climate change problem, the effort taken by the INC after the adaptation of the Convention now is to survey the options, pinpoint areas of controversy, and identify specific aspects of the issue to be dealt with by the COP-1. In this phase the INC addressed a wide range of issues including arrangements for the COP-1, rule of procedures for the COP and financial mechanism, etc., setting agendas for the consecutive conference.

4.2.1 From Rio to Berlin

Although the UNFCCC is completed, the aftermath of the Rio brings in some backlash against environmental issues, especially the skepticism concerning the science and worries about the economic impact from emission reductions. Under this international momentum, neither Clinton’s “Btu” tax proposal nor EU’s carbon tax proposal gains much support.¹³³ Nevertheless, the bargaining process of climate change regime never stops. After the adoption of the UNFCCC, the INC has met five more times in preparation for the COP-1. Meanwhile, 24 Annex 1 Parties have submitted first national communications indicating their

¹²⁹ The UNFCCC, Article 2.

¹³⁰ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol :International Climate Policy for the 21st Century*,p.33.

¹³¹ Luterbacher Urs and Sprinz F. Detlef,ed. (2001) ”The History of the Global Climate Change Regime,” *International Relations and Global Climate Change* (The MIT Press) : 33-34.

¹³² These seven phases of the negotiating process are adopted and revised from Chasek’s six phases: precipitants, issue definition, statement of initial positions, draft/formula-building, final bargaining/details and ratification/implementation.

¹³³ Michael Grubb, Christiaan Vrolijk and Duncan Brack(1999) *The Kyoto Protocol: A Guide and Assessment* (London: The Royal Institute of International Affairs):44.

efforts to deal with emission reductions under the Convention.¹³⁴ Positively, more and more countries come up with their national plans to address the climate change. On the whole, at the stage from the INC-9 to the INC-11 sessions, except maintaining the GEF as the interim financial mechanism, little progress is made on other important matters such as adequacy of commitments, Joint Implementation (JI) and, Rules of Procedure. These controversies are left to the First Conference of the Parties (COP-1) in Berlin from 28 March to 7 April 1995.

4.3 Turning-point Phase

This phase has further elaborated a series of unsolved issues and reached a consensus which results in a watershed change for the negotiation process. This decisive change significantly played a catalytic role in the regime formation. In this phase, the COP-1 has historically adopted the decision to launch a process toward appropriate action for the period beyond the year 2000, namely negotiating a protocol or other legal instrument to the Convention.

4.3.1 The First Conference of the Parties: the Berlin Mandate

The first issue before COP-1 is to discuss the possibility of a pilot phase of Joint Implementation (JI) without credit allocation. The other problem that plagued Parties is concerning Rules of Procedures which may block the future work of the COP. In addition, of the great controversy is to decide whether the commitments of the industrialized countries were “adequate” to achieve the Convention’s objectives. The COP-1 concludes that the COP should begin a process to take appropriate action for the period beyond 2000, including the strengthening the commitments of Annex 1 Parties in Articles 4, paragraph 2(a) and (b), through the adaptation of a protocol or another legal instrument. Also, it shall neither introduce any new commitments for non-Annex I Parties nor deny the right to development in the developing countries. This is the so-called “Berlin Mandate (BM)” which aims for negotiating a protocol to be adopted at the COP-3. Although the COP-1 in Berlin has recognized the need to negotiate a protocol that set targets and strengthen commitments to reduce GHGs, it is unable to agree any new commitments. However, of significance is that the consensus on the adequacy of the commitments among Parties is built. The “Ad Hoc Group on the Berlin Mandate (AGBM)” will undertake to fulfill the task of BM and pave the way for future discussions.

4.4 Issue Definition Phase

This phase is involved with the identification of the scope and magnitude of the causes of the environmental problems. The actors who introduce and define the issue, within the context of a scientific meeting and within a UN agency, often provide and publicize new scientific evidence.¹³⁵ In Kyoto negotiations, the discussions during first two sessions of the AGBM were framed by the IPCC SAR. Also, analysis and assessment were studied to identify and narrow possible policies and measures. Options for emission-reduction targets and timetable were firstly put onto the table.¹³⁶

4.4.1 AGBM 1 to AGBM 2: Initiative on the Berlin Mandate

AGBM 1 has embarked on “the Berlin Mandate process” which aims at negotiating a possible protocol and reaching the objective of the strengthening of commitments for Annex I Parties. As a beginning of the BM process, AGBM 1 does not reach any impressive decision and still fails to elect its Bureau, but it does take an initial step toward building some “common ground” for issues in the upcoming session such as analysis and assessment and the inputs to subsequent sessions.¹³⁷ In the second session of AGBM, two new ideas on the structure and form of a possible protocol appear, mainly from the EU and US. The EU’s proposal for a protocol contains three annexes of policies and measures. The US and others, focusing on the nature of quantitative commitments, suggest group and cumulative targets. The US proposes consideration of cumulative, average objectives, rather than targets that would be reached in a given year. US also proposed to share the commitments between Parties. NGOs and AOSIS maintain their support on the targets proposed in their original draft protocol.¹³⁸

¹³⁴ Earth Negotiations Bulletin.vol.12 No.12, 28 March 1995. p,2.

¹³⁵ Pamela S. Chasek(2001) *Earth Negotiations: Analyzing Thirty Years of Environmental Diplomacy*(United Nations University Press):43.

¹³⁶ Ibid.,208.

¹³⁷ Earth Negotiations Bulletin.vol.12 No.22, 28 August 1995. p,7.

¹³⁸ Earth Negotiations Bulletin.vol.12 No.24, 7 November 1995. p,8.

On the other hand, OPEC countries, China and other developing countries call for additional reviews on analysis and assessment, seemingly an attempt to slow the BM process.¹³⁹ For these laggard countries, pointing to scientific uncertainties becomes a tool of preventing any actions. That is, waiting for the IPCC SAR before deciding on future commitment serves a tactic for delaying. However, even the IPCC issues its SAR in December 1995 by stating that “the balance of evidence suggests that there is a discernable human influence on global climate,” OPEC, Australia and Russia still oppose the new IPCC conclusions as a basis of the AGBM discussions.¹⁴⁰ The disputes over the findings of the IPCC persist to the convening of the COP-2 which endorsed the IPCC SAR.

4.5 Statement of Position Phase

In this phase, governments speak out their initial statements and come up with their proposals to be included in the agreement. Different positions emerge and coalitions begin to form.¹⁴¹ Divergence of opinions on possible approaches to curb GHGs emissions have been expressed by the US, the EU, the oil-exporting countries, the G-77 and China, and the AOSIS. Also, new scientific evidence from the IPCC SAR and legally binding emission-reduction targets and timetable have been respectively endorsed and reaffirmed by the Geneva Declaration, amongst the strong opposition from the OPEC.

4.5.1 AGBM 3 and AGBM 4

At the AGBM 3 in the spring of 1996, the US significantly shifts its stance from opposition to supporting the finding of the IPCC. The US announces that it would begin the negotiations by tabling a position on targets at COP-2.¹⁴² Meanwhile, German proposes a two-phase CO₂ emissions reduction target.¹⁴³ Japan recommends JI to be incorporated officially in future commitments. Finally the diverse stances among states become explicit at the AGBM 3.¹⁴⁴ As for the AGBM 4, except highlight that a draft protocol rather than an amendment is an apparent preference among the Annex 1 Parties, there is no substantive process at the AGBM 4.

4.5.2 The Second Conference of Parties: the Geneva Ministerial Declaration

As the mid-point of the BM process, the second conference of Parties (COP-2) has reached the most important and visible outcome: the Geneva Declaration. It endorses the IPCC Second Assessment Report (SAR) which confirms a discernible human influence on climate and significant reductions in net GHGs emissions are possible and feasible. Most importantly, it calls for “legally binding” objectives and significant reductions in GHGs emissions. During the three-day Ministerial Segment in the COP-2, most ministers agree that the SAR provides important scientific reference for the decision making and regard it as the basis for political action. Especially, the Clinton administration reaffirms its support with the IPCC SAR conclusions. However, the consensus on the SAR is only reached by the majority. Some Parties, primarily the oil producers, Russia and Australia still raise the doubts on both the SAR and the need for urgent action.

With respect to the legally binding commitments, in a dramatic change of position, the US for the first time supports a legally binding agreement to fulfill the BM. “Under-Secretary Timothy Wirth called for intensified international negotiations on a ‘realistic, verifiable and binding medium-term emission target-language that had not even crossed the lip of US negotiators one year earlier.’”¹⁴⁵ The Geneva Declaration thereby enables the call for legally binding objectives and significant emissions reductions. However, environmental NGOs point out that “the Declaration does not specify that reductions should be well below the 1990 level

¹³⁹ Ibid.

¹⁴⁰ Sebastian Oberthur and Hermann E. Ott.(1999) *The Kyoto Protocol : International Climate Policy for the 21st Century*. (Berlin: Springer):51-52.

¹⁴¹ Pamela S. Chasek, *Earth Negotiations*,p.219.

¹⁴² Ibid.,51.

¹⁴³ Industrialized countries should reduce 1990 levels of CO₂ emissions by 10 % until 2005 and by 15-20 % until 2010.

¹⁴⁴ Earth Negotiations Bulletin.vol.12 No.27, 11 March 1996. p,9.

¹⁴⁵ Sebastian Oberthur and Hermann E. Ott.(1999) *The Kyoto Protocol : International Climate Policy for the 21st Century*. (Berlin: Springer):52.

set in the UNFCCC, [and] fails to call for binding coordinated measures.”¹⁴⁶ Also, “sixteen delegations, including many oil producers, objected to both the Declaration’s content and handling.”¹⁴⁷ Under the situation of unresolved rules of procedures and lack of consensus, the COP-2 adopts the Geneva Declaration by merely taking note of it. Nevertheless, the willingness of most countries to act in the absence of consensus sends a strong signal to the future negotiations in the COP-3 at Kyoto that despite the opposition of a small minority, the majority of the Parties would go on their own way to fulfill the task of BM.

4.6 Formula Phase

The formula-building phase is characterized by negotiations on a draft text. In this phase, “delegates examine the draft paragraph-by-paragraph and propose new language, begin to work out compromises among themselves, and generally ensure that their concerns are met in the draft as it evolves.”¹⁴⁸

4.6.1 From AGBM 5 to AGBM 8: Approaching Kyoto

At the AGBM 5, the action of requesting the chair to prepare a draft negotiating text by delegates has facilitated the fulfillment of the BM. At the conclusion of the AGBM 4 the negotiators are requested to submit proposals by 15 October 1996. The chair summarizes and presents them to AGBM-5 in December. At the end of the AGBM-5, delegates request the chair and the secretariat to prepare a framework compilation of all existing proposals so as to provide a uniform basis for completion of the protocol.¹⁴⁹

Since that, the subsequent negotiations are based on the negotiating text prepared by the chairman Estrada¹⁵⁰ “rather than a more deductive approach where the general principles or a formula are agreed on first and then the details are negotiated.”¹⁵¹ Instead, with a more inductive approach, delegates to the AGBM 6 begin to “examine the draft paragraph-by-paragraph and propose new language,”¹⁵² trying to coordinate their proposals and concerns. The EU proposes a 15 percent cut in a “basket” of GHGs by the year 2010 below 1990 level while the US comes up with flexible measures such as emissions trading and Joint Implementation (JI). Other states such as the OPEC countries call for compensation fund.

At the AGBM-7 in August 1997, the EU’s proposal of 15 percent cut failed to gain the majority of support. And another setback for the process is that the US Senate passed a 95-0 resolution demanding the Clinton administration not to accept any binding international agreement on climate change without incorporating the developing countries’ commitments.¹⁵³ Finally at the AGBM-8 in October 1997, the G-77 and China, Japan, and the US announced their proposals for targets and timetables. Still no agreement reached on the consolidated negotiating text that Chairman Estrada¹⁵⁴ introduced because in this text he deleted the EU’s proposals of PAMs, the OPEC’s request for a compensation fund, the US’s proposals for developing countries’ participation, and Brazilian proposals for a Clean Development Fund (the ‘Kyoto surprise’).¹⁵⁵

4.7 Detail phase

During the detail phase, final agreement on the entire text is reached. The final bargaining centers “on the negotiation of outstanding core details of the agreement.” And it takes place “at the final session of the negotiating committee and at the conference scheduled to adopt the protocol.”¹⁵⁶

4.7.1 The Third Conference of Parties: the Kyoto Protocol

One day prior to the COP-3 in December 1997 in Kyoto, the AGBM-8 reconvened on 30

¹⁴⁶ Earth Negotiations Bulletin.vol.12 No.38, 22 July 1996. p.13.

¹⁴⁷ Ibid.

¹⁴⁸ Pamela S. Chasek, *Earth Negotiations*.,p.211.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.,57.

¹⁵¹ Chasek ,*Earth Negotiations*,p.211.

¹⁵² Ibid.

¹⁵³ Robert L. Paarlberg , *U.S International Environmental Policy Since Rio*,p.241.

¹⁵⁴ Raúl Estrada is the Ambassador of Argentina to China, who served as Chairman of the INC after RIO, then chaired the AGBM and later the COW at the Kyoto Conference.

¹⁵⁵ Michael Grubb with Christiaan Vrolijk and Duncan Brack (1999) *The Kyoto Protocol: A Guide and Assessment* (London: The Royal Institute of International Affairs):64.

¹⁵⁶ Chasek, *Earth Negotiations*,p.215.

November. Obviously the time pressure has forced the delegates to negotiate out an outcome before the deadline for Kyoto conference.¹⁵⁷ In the end, the “AGBM-8 largely failed to show the way to close the cap, but Parties did narrow down the options.”¹⁵⁸

Final bargaining began in Kyoto as the debates centered on two unsolved issues: the emission-limitation targets for the developed countries and the flexible mechanism which allows developed countries to meet their targets in a flexible manner such as emission trading and Joint Implementation (JI).¹⁵⁹ With respect to the targets, the EU proposed a relatively strong target which requires a 15 percent cut in GHGs by the 2010 below 1990 levels, while other Annex 1 Parties such as the US and Australia proposed weaker target.¹⁶⁰ However, the EU targets did not gain support. The failure for the EU to promote this target lies in its disputed “Luxembourg compromise (October 1997)” which regulates how the EU allocates emission commitments among its members on the basis of differentiation principle. This “EU bubble” agreement earned the EU almost universal hostility from the rest of the OECD. Nevertheless, later this concept has led to the principle of joint fulfillment of commitment in Article 4 of the Kyoto Protocol.¹⁶¹ Ultimately this issue was resolved by specifying different emission targets for each Annex 1 Parties.

The second controversial US proposals for flexible mechanism also led to the deadlock. In light of its success of controlling sulfur dioxide, the US was intent on applying its experience of tradable permit system to the GHGs control¹⁶² while the EU and developing countries contended that domestic action rather than emission trading and JI should be the primary means to achieve emissions targets. In the end, emission trading, JI among industrial countries and Clean Development Mechanism (CDM) for emission reduction projects in developing countries are established as the Kyoto Mechanisms. But these should be “supplemental” to domestic action.¹⁶³

Except the emission targets and flexible mechanisms, the issue concerning developing countries’ participation also plays a determinant role in the fate of Kyoto Protocol. Because the US announced that the chance for the US to ratify the Protocol is rare on condition that no language of commitments for developing countries concluded in the Protocol. On the final day of COP 3, Chairman Estrada issued the final draft protocol which contains a provision (draft Article 9) that allowed developing countries’ participation on a voluntary basis and differentiated emissions reduction obligation for the period 2008-2012 for Annex I Party. At a result, due to the vigorous opposition led by China, the US’ request commitments for developing countries did not meet by the final Protocol. After “negotiation by exhaustion,”¹⁶⁴ negotiations eventually concluded at 10:15 am, on 11 December 1997. The Kyoto Protocol regulates that industrial countries reduce their aggregate GHGs emissions by at least 5 percent below 1990 levels in the commitment period 2008-2012 according to their differentiated binding targets and timetables.¹⁶⁵

4.8 Summary

The post-Rio developments from the completion of the UNFCCC to the COP-3 have manifested international joint efforts to devise the institutional arrangements for climate change. Multiple actors (the UN, states, NGOs and individuals) along with the emergence of the

¹⁵⁷ Chasek, *Earth Negotiations*, p.214.

¹⁵⁸ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol :International Climate Policy for the 21st Century*, p.57.

¹⁵⁹ Daniel Bodansky (2001) “The History of the Global Climate Change Regime,” in Urs Luterbacher and Detlef F. Sprinz (ed.) *International Relations and Global Climate Change* (Cambridge: The MIT Press): 36.

¹⁶⁰ Ibid.

¹⁶¹ Michael Grubb with Christiaan Vrolijk and Duncan Brack, *The Kyoto Protocol: A Guide and Assessment*, p.85-86.

¹⁶² Ibid.,90.

¹⁶³ Daniel Bodansky (2001) “The History of the Global Climate Change Regime,” in Urs Luterbacher and Detlef F. Sprinz (ed.) *International Relations and Global Climate Change* (Cambridge: The MIT Press): 36-37.

¹⁶⁴ Sebastian Oberthur and Hermann E. Ott., *The Kyoto Protocol*, p.88.

¹⁶⁵ The Kyoto Protocol, Article 3.

transnational alliances (the AOSIS, OPEC, G77 and China, the EU and JUSSCANNZ¹⁶⁶) have endeavored to negotiate the most favorable deals for their preferences and interests. As a result, the climate change regime is formed by these actors exercising bargaining leverages in the negotiation process through the agenda setting, turning-point, issue definition, statement of position, formula phase, and final detail phase. The chronological process of the post-Rio negotiation of the Kyoto Protocol is presented in the following Table 1.

Table1. The process of the post-Rio negotiation of the Kyoto Protocol

Phase	Meeting	Place	Date	Event and Result
Agenda setting	INC-9	Geneva	7-18 February 1994	The location of the Permanent Secretariat is unresolved
	INC-10	Geneva	22 August- 2 September 1994	1. The Committee agrees on the mechanism for the first review of adequacy of commitments. 2. Trinidad and Tobago (AOSIS) submit a draft protocol calling for a reduction of GHGs by at least 20% by the year 2005.
	INC-11	New York	6-17 February 1995	1. Reaffirm the GEF as the interim financial mechanism. 2. Still no agreement on the Rules of Procedures.
Turning-point	COP-1	Berlin	28 March-7 April 1995	Set up the "Berlin Mandate" to negotiate a protocol to the UNFCCC.
Issue definition	AGBM 1	Geneva	August 1995	1. Identify the nature and content of Agenda items 3(c) Analysis and Assessment and (d) Request for inputs to the subsequent session of the AGBM. 2. no agreement on the election of its Bureau
	AGBM 2	Geneva	October-November 1995	1. The proposals for a possible protocol: The EU proposal for three annexes of PAMs ; the US and others' proposal for group and cumulative targets 2. Dispute over science/IPCC SAR
Statement of position	AGBM 3	Geneva	March 1996	1. A number of new proposals on new commitments for Annex 1 Parties show up. 2. A number of concepts such as flexibility, differential criteria, equity and trade appear.
	AGBM 4	Geneva	8-19 July 1996	Convergence on a draft protocol rather than an amendment

¹⁶⁶ JUSSCANNZ is an acronym that denotes Japan, the US, Switzerland, Canada, Australia, Norway and New Zealand.

	COP-2	Geneva	8-19 July 1996	1. Geneva Ministerial Declaration reaffirming the need for legally binding QELROs and endorsing the IPCC SAR. 2. The US support binding targets
Formula phase	AGBM 5	Geneva	9-13 December 1996	Framework compilation of proposals for further consideration
	AGBM 6	Bonn	3-7 March 1997	EU target proposal, US Draft Protocol Framework, negotiating text adopted
	AGBM 7	Bonn	31 July-7 August 1997	Consolidation of negotiating text
	AGBM 8	Bonn	22-31 October 1997	Proposals by Japan,G77, US, revised text under negotiation by chairman
Kyoto		30 November 1997		
Detail phase	COP-3	Kyoto	1-11 December 1997	Kyoto Protocol calling on Annex 1 Parties to reduce emissions of six GHGs by 5.2% below 1990 emission levels by 2012. (differentiated reduction targets for the Annex 1 countries.)

5 Institutional Bargaining for the Climate Change Regime

5.1 Introduction

Under a veil of the uncertainty, the multiple actors with mixed-motives, namely integrative and distributive bargaining, have undertaken to hammer out the acceptable institutional arrangements on the basis of the consensus rule. The Kyoto Protocol in the end was reached by focusing on several key problems pertinent to the climate change (emission trading, the JI and CDM) and formulating a negotiating text with the leadership of Chairman. The process of climate regime negotiation has exemplified the institutional bargaining model. Thus, in order to see how the climate regime forms in light of the institutional bargaining, this chapter is aimed at pinpointing the determinants of success and failure in efforts to form the climate change regime. Much attention is paid to examine whether the propositions that contribute to the success of institutional bargaining can be identified and further account for the climate change regime formation. Below the analysis of the successful hypotheses about climate regime formation by the institutional bargaining model is presented.

5.2 Contractarian Environment: A Veil of Uncertainty and Integrative Bargaining

Institutional bargaining can succeed, as Young argues, only when the issues at stake lend themselves to treatment in a contractarian mode. This contractarian mode rests upon how much degree the absence of a fully specified zone of agreement encourages integrative bargaining and a veil of uncertainty exists. That is, during the course of real-world negotiations, the negotiators in efforts to devise institutional arrangements on the terms of a social contract have no clear ideas about what their interests and preferences are, what alternatives or strategies available they could have and how the outcomes with every feasible combination choices effect.¹⁶⁷ In this situation where the contours of the contract curve or the locus of the negotiation net are seldom discovered, the negotiators would have incentive to explore and identify more opportunities for devising mutually beneficial deals.

At the same time, the veil of uncertainty would help facilitate efforts to reach agreement on the substantive provisions of institutional arrangements. This veil of uncertainty stems from the presence of imperfect information. When a person faced with choices among rules or institutions is unsure about his or her future positions and interests, “he [or she] will tend to agree on agreements that might be called ‘fair’ in the sense that patterns of outcomes generated under such arrangements will be broadly acceptable.”¹⁶⁸ Put simply, the veil of uncertainty will allow a condition which *enables* actors to form regime.¹⁶⁹ And the presence of imperfect information ensures this uncertainty prevails.¹⁷⁰

With respect to science-driven issues, the scientific uncertainty about the nature of the

¹⁶⁷ Hasenclever, Mayer and Rittberger, *Theories of International Regimes*,p.72.

¹⁶⁸ Geoffrey Brennan and James M. Buchanan, *The Reason of Rules: Constitutional Political Economy*,p.30.

¹⁶⁹ Andreas Hasenclever , *Theories of international regimes*,p.73.

¹⁷⁰ Oran R. Young, *International Governance*,p.107.

problem may cause this imperfect information. When uncertainty and no reliable information about the extent, causes and cross-border impact of the environmental problems¹⁷¹ remain high, the negotiators would be as well uncertain about their strategies, positions and preferences. In this situation that the integrative bargaining arises and a veil of uncertainty prevails, the contractarian environment is bound to occur. And the success of institutional bargaining lies in how much degree the issues embed in this contractarian environment.

In the climate change regime, mixed-motive bargaining occurs with both existence of integrative bargaining and distributive bargaining. In the early negotiations of UNFCCC, it was more an integrative bargaining as the work of the IPCC during 1989 and 1990 has set the tone that the climate change is a global common problem. The negotiations within the INC also have carried on without bogging down in battles regarding who is winner or loser.¹⁷² The climate change is defined as an area of common concern, a *problem*, rather than an *issue* in which the objectives of the states are assumed to be in conflict.¹⁷³ With regard to who might gain or lose from a changing climate, there were divergent comments on it. Although some areas around the globe have current favorable climate conditions and others do not, the identification of climate-related winners and losers resulting from the climate extremes is still difficult. Even the efforts to identify the need for the objective measures of a win or a loss as a result of the climate change are discouraged.¹⁷⁴

That is, the scientific uncertainty about the causes and consequences of the climate change has avoided the situations in which distributive bargaining over whom will gain more or lose less happen. Also, because of scientific uncertainty the negotiators are unable to assure their future interests and positions. The degree of these scientific uncertainties is virtually related to the work of the IPCC. As the authoritative assessment of the science of climate change, the IPCC assessment reports play an important role of deciding the level of scientific uncertainty. The IPCC issued its FAR in 1990 by concluding that global mean temperature is likely to increase by about 0.3 degree Celsius per decade, under business-as-usual emission scenario. However, “Working Group I (WGI), responsible for scientific assessment, [also] reported substantial uncertainty about most important aspects of climate change and the carbon cycle.”¹⁷⁵ Without much reliable evidence made, “WGI was only ‘certain’ of the natural greenhouse effect that allowed life to flourish on Earth.”¹⁷⁶ More importantly, the IPCC was unable to reach consensus on the question of whether human activities induce climate change.¹⁷⁷

Besides, criticisms are levied by other scientists against the findings of the IPCC. Except for numerous criticisms on the general circulation models (GCMs) on which the IPCC relied, the critics also “argued that while atmospheric concentrations of CO₂ had increased, there was no evidence that the effects would be harmful.”¹⁷⁸ The heated debates about the IPCC FAR have shown that scientific complexity and uncertainty of climate change issue still cannot be wiped out. Therefore, in light of gaps of reliable information about the causes and impacts of the climate change, the negotiators cannot judge their preferences and future positions. What has been seen within the INC are the negotiations more or less in a way of voicing their views and concerns or sending up trail balloons, rather than really bargaining for strict regulations.¹⁷⁹ The uncertainty they faced did not preclude their efforts to devise the possible arrangements for the climate change. Instead, even with unresolvable uncertainty about the inner workings of the

¹⁷¹ Radoslav S. Dimitrov “Knowledge, Power, and Interest in Environmental Regime Formation,” *International Studies Quarterly* 47(1) (March 2003).

¹⁷² Oran R. Young, *International Governance*, p. 43.

¹⁷³ Richard E. Walton and Robert B. Mckersie (1991) *A Behavioral Theory of Labor Negotiations: An Analysis of a Social Interaction System*(Itaca and New York: ILR Press):4-5.

¹⁷⁴ Michael H. Glantz, *Climate Affairs*,p.150-151.

¹⁷⁵ Neil E. Harrison(2004) “Political Responses to Changing Uncertainty in Climate Science,” in Neil E. Harrison and Gary C. Bryner (ed.)*Science and Politics in the International Environment*(Lanham: Rowman and Littlefield Publishers ,Inc.):113.

¹⁷⁶ *Ibid.*,114.

¹⁷⁷ Norman J. Vig and Regina S. Axelrod (1999) *The Global Environment: Institutions , Law, and Policy*(Washington: Congressional Quarterly Inc.):219.

¹⁷⁸ Neil E. Harrison, *Political Responses to Changing Uncertainty in Climate Science*,p.114.

¹⁷⁹ Daniel Bodansky, *History of the Global Climate Change Regime*,p.32.

climate system, most states are willing to call for actions to combat the global warming.¹⁸⁰

As a result, the negotiators faced with choices between a general framework agreement and a specific convention on climate change, are intent to negotiate the outcome that in a sense they feel “fair” and thereby acceptable. A specific convention model on climate change then was adopted by concluding the UNFCCC.¹⁸¹ As we can see, the provisions of the UNFCCC reflect a product of balanced compromise “either through formulations that preserved the positions of all sides,” or “that deferred issues until the first meeting of the conference of the parties.”¹⁸² In all, the uncertainty concerning the extent, causes, and impacts of the climate change makes the climate-related winners or losers hard to identify. “[U]ncertainty has served to soften the problems associated with distributive bargaining.”¹⁸³ Also, the uncertainty affecting the negotiators’ perceptions of their future preferences and interests creates a condition that facilitates the completion of the UNFCCC in 1992, paving the way for the further elaborations of the Kyoto Protocol.

However, since the COP 2 endorsed the IPCC Second Assessment Report (SAR) in 1996, the condition for the ongoing bargaining to explore more possible mutually acceptable arrangements has been changed. Before the SAR was discussed in the COP 2, the Subsidiary Body for Scientific and Technological Advice (SBSTA), as a buffer organization between the IPCC and the COP, has considered and debated the SAR in its second and third session in order to bring forward the recommendations on research and observation to the COP2. During the debates in the SBSTA 3, most delegates endorsed the SAR as a basis for urgent action while Russia, Australia, and other oil-exporting countries opposed to the findings of the SAR, citing a lack of certainty in the SAR data.¹⁸⁴

Despite the divergent views about the SAR, the Geneva Ministerial Declaration issued at COP2 has endorsed the IPCC SAR in the end. For the first time, the SAR recognized the human activities ‘slightly’ affect the climate change by concluding that “the balance of evidence suggests that there is a discernible human influence on global climate.”¹⁸⁵ The SAR had answered the most important question with a greater certainty: human-induced global warming was real and already ongoing. However, “allegations that the SAR had been doctored to understate uncertainty”¹⁸⁶ prevailed because the wording of the final report was negotiated and framed for the better understanding of the policy makers. Whether the SAR was allegedly revised for the political purpose, of significance is that the SAR has “led policy makers and the public into believing that the scientific evidence shows human activities are causing global warming.”¹⁸⁷ The “significant, often adverse, impacts on many ecological systems and socio-economic sectors” are increasing.¹⁸⁸ With the endorsing the SAR by the COP2, the scientific uncertainty was “formally” reduced so as to make who would be climate-related winners and losers more salient.

On the other hand, for the worries of the Annex I Parties, they were originally requested by the UNFCCC to adopt climate change policy and measures with the “non-legally binding” aim of returning their GHGs emissions to the 1990 levels by the year 2000. Now these measures are reaffirmed by the COP-2 as “legally binding” commitments of emission reduction targets and timetables. Certainly this is not what “Carbon Club”¹⁸⁹ would like to see. Owing to the legal measures of reduction of GHGs emissions that might wreck economic interests, the oil-exporting countries are always opposed to these regulations. Obviously, the distributive concerns over who gains more or who loses more prevail at this stage. As a result, the

¹⁸⁰ Neil E. Harrison, *Political Responses to Changing Uncertainty in Climate Science*, p.115-116.

¹⁸¹ Daniel Bodansky, (1994) “Prologue to the Climate Change Convention.” in Irving M. Mintzer and J. Amber Leonard(ed.) *Negotiating Climate Change: The Inside Story of the Rio Convention*(Cambridge: Cambridge University Press):53.

¹⁸² Daniel Bodansky, *History of the Global Climate Change Regime*, p.34.

¹⁸³ Young, *International Governance*, p.43.

¹⁸⁴ Earth Negotiations Bulletin.vol.12 No.38, 22 July 1996. p4,

¹⁸⁵ Neil E. Harrison, *Political Responses to Changing Uncertainty in Climate Science*, p.118.

¹⁸⁶ *Ibid.*, 119.

¹⁸⁷ *Ibid.*

¹⁸⁸ *Ibid.*, 120.

¹⁸⁹ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.31.

distributive bargaining over possible benefits has largely accounted for why the US, as the largest GHGs emitter, rejected to join the Kyoto Protocol. In contrast, the developing countries with no commitments of GHGs reductions are endeavoring to gain the financial assistance and technology transfer.

Conversely, in the ozone case it is the reliable evidence about the effects of the ozone depletion that serves as a focal point for elaborations of the Montreal Protocol. It is on the ground that it is hard to identify winners and losers in the ozone case. "Although the impact [of the ozone depletion] may vary somewhat on the basis of latitude, human populations in every part of the world would be harmed."¹⁹⁰ Also, it is only involved with a limited number of producers of CFCs and comparatively lower cost to ameliorate ozone depletion.

However, in the climate regime, the transboundary impact of the climate change would lead to the demise of the low-lying coastal countries and the poor countries which are most vulnerable to climate change threat. With the evidence confirmed by the IPCC SAR, those with limited capacity to withstand the cross-border impact of climate change are virtually losers while the winner would be the North. Therefore, the positional deadlocks often arise in connection with distributive bargaining. Under the consensus rule, the process of elaborations of the Kyoto Protocol after the COP-2 is characterized by the hard bargaining among the developing countries, particularly the AOSIS, and the industrial countries with respect to the emission-limitation targets and timetables, financial assistance and technology transfer.

5.3 Exogenous shocks or crises

Exogenous shocks or crises would enhance the probability of success in efforts to devise the institutional arrangements. For example, the 1986 Chernobyl accident and the 1985 discovery of an ozone hole over Antarctica have facilitated the efforts to reach related institutional arrangements respectively.¹⁹¹ However, as for the climate change, it is hard to find out the exogenous shocks or crises as the nuclear accident or an ozone hole can catch the attention of policymakers and broader public alike.¹⁹² At best, the 1988 heat wave and drought of the summer in North America have gave some boost to the Toronto conference in June 1988 which called for global emissions of CO₂ to be reduced by 20 percent by the year 2005, the development of a global framework convention to protect the atmosphere.¹⁹³

As a whole, the climate warming with "a creeping crisis" simply cannot have the same impact of the exogenous crises like those compelling immediate accidents.¹⁹⁴ Although the current evidence of climate change shows that the increase of extra-strength weather, the decline of winter and the shift in the natural world are real and ongoing,¹⁹⁵ these slowing phenomenons did not produce the abrupt crises so as to shock or at least alarm the policymakers or public right away.

A case in point is the increasing temperatures. Since late 1800s, the global average temperature of the earth's surface has risen by 0.6 degrees C and it is expected to increase another 1.4 to 5.8 degrees Celsius by the year 2100.¹⁹⁶ Even so, this "slightly" rising speed (though in fact it results in a huge impact on ice melting and shifts of wildlife) does not form an abrupt shock to awake the public's awareness about the severity of the global warming. So does the time-consuming sea-level rise. Global mean seal level is projected to rise by 0.09 to 0.88 meters between 1990 and 2100.¹⁹⁷ A sea-level rise at the speed of 0.9 cm per year would take almost 100 years to engulf a low-lying coastal country such as Maldives.¹⁹⁸ Even now Alaskan village is swallowed due to the rising sea-level; whereas it is thought to be the most extreme case.¹⁹⁹ More importantly, the point is that most people on earth do not feel as urgent as those in the low-lying coastal regions unless the catastrophic scenes of film *The Day After Tomorrow* do occur.

¹⁹⁰ Young, *International Governance*, p.108.

¹⁹¹ Oran R. Young, *International governance*, p.113.

¹⁹² Ibid.

¹⁹³ Daniel Bodansky, *History of the Global Climate Regime*, p.27.

¹⁹⁴ Oran R. Young, *International governance*, p.113.

¹⁹⁵ Kyoto Protocol website. http://unfccc.int/essential_background/feeling_the_heat/items/2904.php

¹⁹⁶ WGI Report, IPCC TAR 2000.

¹⁹⁷ Ibid.

¹⁹⁸ http://news.bbc.co.uk/1/hi/world/south_asia/3930765.stm

¹⁹⁹ <http://news.bbc.co.uk/1/hi/world/europe/3940399.stm>

In all, with regard to the climate change, the impact is creeping and periodic. The exogenous shock or crisis concerning the climate change does not occur as compelling and astonishing as the explosion of nuclear plant which promptly renders the policymakers motivations to hammer out the institutional arrangements.

5.4 Salient solution

A salient solution “based on simplicity and clarity contributes to success in institutional bargaining involving numerous parties operating under consensus rules”²⁰⁰ such as a simple ban or prohibition on pelagic sealing in northern fur seals regime and across-the-board percentages cuts in the CFCs of ozone regime. In climate regime, several innovative arrangements have been identified such as the differentiated targets and particularly the three Kyoto mechanisms: emissions trading, the JI and the CDM. The inclusion of carbon sinks in emission reductions is also a specific arrangement for climate regime.

Due to its complexity it is hard to devise the simple and clear solutions for climate regime. Rather than a “flat rate” target, the Kyoto regime has stipulated “common but differentiated commitments” for Annex B Parties. The commitments of emission targets range from an obligation to reduce emissions by 8% (for the EU and Eastern European countries) to permission to increase emissions by 10%(Iceland) and 8%(Australia).²⁰¹ Through differentiated quantitative obligations, Parties would jointly reach the goal of at least 5% aggregate GHGs emission reductions below 1990 levels in the commitment period 2008-2012. Apart from the design of differentiated targets, in order to abate the GHGs emissions with the least cost, the emission trading as a flexible and cost-effective market-based approach was introduced. Its basic concept is to allow each nation to be allocated a certain permissible level of carbon emissions and to trade permits among themselves.²⁰² A tradable permit system would encourage implementing least-cost carbon reduction options which “emitter with low abatement costs will reduce emissions and sell their excess permits, whereas polluter with high abatement costs will prefer to buy.”²⁰³

The idea of emission trading was first come up by the US in the COP2 as a condition for its acceptance of a “binding emission target.”²⁰⁴ This idea stems from the US successful experience with its tradable permit system to control domestic sulfur dioxide.²⁰⁵ However, whether it can apply to the climate regime as well is still unclear. Although the concept of emission trading is simple, most negotiators felt it is entirely new and hard to understand, even the US at the beginning is not sure about this application.²⁰⁶ Also, as the EU argued, “such a novel and complex idea in the international scene could not possibly be negotiated in time for Kyoto.”²⁰⁷ In this way, the idea of tradable emission permits lacks of salience and bedevils the efforts to negotiate a simple solution for climate regime.

The idea of emission trading is not clarified until the US submitted a more specific text depicting that “governments can exchange their ‘tonnes of CO₂’ allowed under the protocol,” and authorized the industries to carry it out.²⁰⁸ Nevertheless, in the final bargaining of Kyoto Protocol, Chairman Estrada dismissed the OECD’s complex text of emission trading, for fear that its complexity at the final hour and joint objections from the developing world and the EU would destroy the making of the Protocol. Instead, Chairman skillfully and successfully harmonized the offending paragraphs of original emission trading proposals by stating that “the Parties would subsequently negotiate principles, rules, etc. for emissions trading; that they may trade emissions; that any trading would be supplemental to domestic action.”²⁰⁹ In practice a

²⁰⁰ Oran R. Young, *International governance*, p.110.

²⁰¹ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.122.

²⁰² Jonathan M. Harris(2002) *Environmental and Natural Resource Economics: A contemporary Approach*(Massachusetts: Global Development and Environment Institute):392.

²⁰³ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.89.

²⁰⁴ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.188.

²⁰⁵ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.90.

²⁰⁶ *Ibid.*, 90-91.

²⁰⁷ *Ibid.*, 92.

²⁰⁸ *Ibid.*, 92.

²⁰⁹ *Ibid.*, 96.

global carbon market where the emission units are bought and sold has yet to set up, though the regional carbon markets such as Chicago and the EU trading schemes will start in January 2005.²¹⁰

With regard to the JI and CDM, the project-based JI refers to a system in which a country or company invests in projects that reduce emissions in another country where mitigation costs are cheapest or even profitable. The sponsor country or company can claim the emission reduction as a 'credit' against its own required reduction in emission.²¹¹ The JI is allowed between developed countries.²¹² While the CDM is a project-based joint implementation as well, but only implemented between industrialized countries and developing countries. The purpose of the CDM is to assist developing countries "in achieving sustainable developing and in contributing to the ultimate objective of the Convention."²¹³ Through the CDM, the developing countries "will benefit from projects activities."²¹⁴ Meanwhile, the developed countries can achieve their quantified targets by certified emission reductions (CERs) accruing from CDM projects.²¹⁵

Although these project-based international crediting are aimed for promoting efficiency, a 'win-win' option for all concern,²¹⁶ still, a clear and simple method has yet to be sorted out and a lot of problems emerges in the implementation. For example, with regard to the JI, how to select JI projects "entails identification of which type of project to approve and in which country".²¹⁷ Also, "the degree to which guidelines for reporting, calculations of credits and verification should be specified"²¹⁸ still remain controversial. As for the CDM, a lot of unresolved arrangements are lingering such as the absence of clear guidance of governance system of the CDM, the roles of involved private or public entities, not yet defined "operational entities" for certification and unspecified auditors and verifiers.²¹⁹ To both JI and CDM, whether sinks projects should be incorporated becomes the trickiest issue.²²⁰

The possible role of sink, as one of the most technically complex issue, not only complicated the flexible mechanisms but also the design for emission targets. Except for cutting the emissions from the sources, the sink can serve another way to offset the emission reductions by its absorption of CO₂ from the atmosphere. The issue of sink emerged at AGBM8. Surrounded by great uncertainty, most Parties have scarce knowledge about the issue of land-use change and forestry (LUCF).²²¹ Later, the question about whether the first commitment period should include the calculation of sinks has perplexed all Parties during the Kyoto negotiation. The issue of sinks if unsolved would virtually affect calculation of the numeral targets of each country.²²²

Due to its nature of complexity, after Kyoto a lot of efforts were made to clarify the intricate questions raised by the inclusion of sinks in the calculation of commitments. Nevertheless, the questions such as what constitutes "human-induced" land use change and

²¹⁰ Despite of absence of a global carbon market, a smaller carbon market was pioneered by the EU in 2003. <http://www.dw-world.de/dw/article/0,1564,908549,00.html>. Also, Chicago Climate Exchange is a self-regulatory exchange that administers the world's first multi-national and multi-sector marketplace for reducing and trading greenhouse gas emissions, mainly in the North American area.

²¹¹ Ibid.,88.

²¹² Kyoto Protocol 1997 Article 6(1).

²¹³ Kyoto Protocol 1997 Article 12(2).

²¹⁴ Kyoto Protocol 1997 Article 12(3)(a).

²¹⁵ Kyoto Protocol 1997 Article 12(3). Bonn Agreement sets a cap limit on the forest projects: the credits from the afforestation and reforestation projects in the CDM shall not exceed 1% of the base year emissions of Party.

²¹⁶ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.89.

²¹⁷ Ibid.,99.

²¹⁸ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p. 154.

²¹⁹ Ibid.,172.

²²⁰ COP1 agreed the Activities Implemented Jointly (AIJ) pilot phase which includes sink projects. The Kyoto Protocol Article 6.1 refers to the enhancement of removals by sinks in JI project while Article 12 does not depict this for CDM.

²²¹ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.132.

²²² Ibid., p.133.

clear definition of what constitutes a “forest” and “reforestation”²²³ still remain unanswered.²²⁴ As we can see, these solutions identified to deal with the global warming encompass a lot of technical problems, multi-actors, and complicated mechanisms and procedures so that it is hard to negotiate the climate regime in a much simpler fashion as the ozone regime does. The complexity of arrangements in climate regime has shown the absence of salient solutions describable in a simple term.

5.5 Equitable Solution

As the South’s²²⁵ request for New International Economic Order (NIEO) in the 1970s, again, the negotiations of Kyoto Protocol have turned climate change issue into “a[nother] key site in the global transformation of world order.”²²⁶ Although the developing countries experienced the structural adjustment development in the 1980s and even some successfully incorporated into the neoclassical economic order,²²⁷ the developing world still generally staggered in the poor economies.

In 1987, the voice from the South was heard again as the importance of the development was highlighted by the well-known the Brundtland Report. Under this momentum, considerations of the undeniable rights for development of the developing countries prevailed in the climate negotiations arena. To the developing world, they generally viewed the climate negotiations as the economic negotiations rather than environmental conferences.²²⁸ The main reason is that the South is intent to acquire additional finances from these negotiations for their economic development. Also, negotiating the climate regime incurs higher opportunity costs for them because of other pressing concerns (e.g., food production).²²⁹ Therefore, the South often resorted to the equity considerations and related compensatory provisions from the North while avoiding to bearing the commitments during the negotiations of Kyoto Protocol. As we can see, the climate regime formation is characterized by the equity debates between the North and South, reflecting their socioeconomic, cultural and political differences.

Since the objective of Kyoto Protocol is to reduce human-induced GHGs emissions, first issue confronted between the North and South is with respect to who has to bear the responsibility of the rising temperatures. The developing world argued that the global warming problem is a result of the massive fossil burnings from the industrialized countries so that the North has to shoulder the historical responsibility for their past activities. While the North claimed that future emissions would be primarily from the Third World, thereby the developing countries should also take a part in emissions reductions. Noticeably, there are two choices to allocate responsibility for causes of global warming: assessment based on historical emissions or current and future emissions. In fear of emission limitation impeding their economic development, the South stresses the historical responsibilities of the past behaviors of the industrialized countries. To the North, they support the assessment of current and future emissions to which countries such as India and China would contribute most, thereby needing to make the greatest mitigation efforts.²³⁰

Besides, divergent views about how to assign quotas for emissions also emerged among the South and North. The North has a level of per capita emissions over four times that of the South²³¹ so that the South prefers the measures of per capita emissions rates in which the

²²³ Ibid., 135.

²²⁴ Ibid., 135.

²²⁵ China and G77.

²²⁶ Clark A. Miller and Paul N. Edwards, ed. (2001) *Changing the Atmosphere: Expert Knowledge and Environmental Governance* (Cambridge: The MIT Press): 3.

²²⁷ Thomas J. Biersteker (1992) “The ‘triumph’ of neoclassical economics in the developing world: policy convergence and bases of governance in the international economic order,” in James N. Rosenau and Ernst-Otto Czempel (ed.) *Governance Without Government: Order and Change in World Politics* (Cambridge: Cambridge University Press)

²²⁸ Matthew Paterson (1996) *Global Warming and Global Politics* (London and New York: Routledge): 83.

²²⁹ Oran Young, ., p. 293.

²³⁰ Ellen Wiegandt (2001) “Climate Change, Equity, and International Negotiations,” in Urs Luterbacher and Detlef F. Sprinz (ed.) *International Relations and Global Climate Change* (Cambridge: The MIT Press): 134

²³¹ V Bhaskar (1995) “Distributive Justice and the Control of Global Warming,” in V Bhaskar and Andrew

industrialized countries play greater role; the North favors the measures of total emissions which reflect the importance of population numbers in determining future emissions from the developing countries.²³²

Apart from that, how to define the emission targets becomes a major concern. The debates centered on both what kinds of gases should be reduced and which year the commitments of emission reductions should base on. With regard to the gas coverage, it is more an intra-North conflict. “The methodology adopted to estimate these emissions by sources and removal by sinks is based on the calculation of global warming potentials (GWPs).”²³³ The US. advocated the “comprehensive approach” of including different gases together in a basket due to its higher economic efficiency. It proposed a basket of CO₂, methane, nitrous oxide, HFC, PFCs, SF₆. While “the EU perceived it more as a way of avoid serious action on the core problem of CO₂ emissions,”²³⁴ and supported a basket only focusing on CO₂, methane and nitrous oxide. In the end, the Kyoto Protocol adopted a basket of six gases with the provision that Parties could choose a 1995 base year for the industrial trace gases.²³⁵

On the other hand, the emergence of the role of sinks has complicated the definition of emission sources. The reason lies in that sinks can absorb CO₂ from the atmosphere, thereby lessening the GHGs concentrations. Obviously the countries with abundant forests such as Scandinavian countries, New Zealand, the US. and Canada can make use of their sinks for offsetting against emissions. However, other countries such as the EU and G-77 generally oppose the inclusion of sinks as a way of limiting emissions for fear that it would detract the pressure on the core problem of curtailing the GHGs.²³⁶ Although the land-use change and forestry are of greatest importance in emission targets, the sink issue did not emerge as a serious concern until the convening of the COP3.²³⁷ In the end, the Protocol established a regime on sinks within Annex I that allows only absorption due to “direct human-induced land use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990.”²³⁸

Besides, with respect to the base year for assigned GHGs amounts, the Convention has used the year 1990 as the base year for its non-binding aim.²³⁹ However, this 1990 base year has invoked complaints about neglecting the different development situations among states. Japan and France complained that a 1990 base year would ignore their efforts to reduce emissions prior to 1990. The Economies in Transitions (EITs) also campaigned against this base year on the grounds that since 1990 they have undergone rapid transition from centrally planned economies which led to high emissions to market economies. Therefore another base year, the year 1995 was proposed as an alternative. However, again, a proposal of 1995 base year didn't solve the problem because it benefits the states such as Japan and the US but disadvantages the EU. As a result, the base year maintains the year 1990 while the year 1995 was accepted for the trace industrial gases only. Particularly the EITs were allowed to propose different base years.²⁴⁰

Except for the debates on “allocation of responsibility to whom,” “allocation of what”, and “allocation according to what rules”,²⁴¹ the evaluation of the impacts of and vulnerability to the climate change also sheds light on the questions of climate ethics and equity. Evidently, the impacts of the climate change are not borne equally across all regions. Those adverse consequences of the climate change have posed pronounced threats to the developing countries because of their lower capacities to adapt them, while the developed countries which contribute to most of the rising temperatures have higher capacities to deal with those climate-related harms. Comparatively the vulnerability to the climate change of the South is much higher than the North. This thereby raises a moral question that shall the developing countries commit to

Glyn(ed.)*The North The South and The Environment*(London: Earthscan):105.

²³² Ibid., 134.

²³³ Ellen Wiegandt, *Climate Change, Equity, and International Negotiations*, p.133.

²³⁴ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.72.

²³⁵ Ibid., 72-76.

²³⁶ Ibid., 76-80.

²³⁷ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.130.

²³⁸ The Kyoto Protocol 1997, Article 3(3).

²³⁹ UNFCCC 1992, Article 4(2)(b)

²⁴⁰ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p 68-72

²⁴¹ Ellen Wiegandt, *Climate Change, Equity, and International Negotiations*, p.131.

cutting emissions while the largest polluter of the atmosphere, the US, avoids the obligations of emissions reductions.

Besides the concern of intragenerational equity, the intergenerational equity is also addressed in the climate issue. The intergenerational equity is assumed that the present generations have responsibilities to future generations so that they are obligated to reduce the suffering and maximize the happiness of future generations.²⁴² In the climate case, stabilizing the GHGs concentrations in the present generation thereby becomes an important moral task for providing future generations a sustainable environment. As the objective of the UNFCCC stipulates, such task “should be achieved within a time-frame...to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”²⁴³ “The Parties should protect the climate system for the benefit of present and future generation of humankind on the basis of equity.”²⁴⁴

On a whole, the equity considerations embedded in the efforts of devising the institutional arrangements have shaped the whole climate regime process. As a consequence, the UNFCCC has concluded that the developed countries shall take the blame for the largest share of historical and current GHGs emissions, and emissions from the developing countries will grow to meet their social and development needs. The specific needs and special circumstances in the developing countries should be given full consideration. Most importantly, in light of different development conditions amongst countries, the Article 3 of the UNFCCC stipulated the principle “on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”²⁴⁵ Further, the developed countries have to take the lead in combating the climate change. They should assist the developing countries that are particularly vulnerable to the impact of climate change in meeting costs of adaptation to those adverse effects²⁴⁶ and also provide them with new and additional financial resources to meet agreed full costs incurred by complying with their obligations under Article 12(1).²⁴⁷

In the Kyoto Protocol, a proportionality rule is adopted for allocating emissions reduction commitments based on the historical responsibilities by assigning different levels of reduction to different groups of countries.²⁴⁸ Of significance is that the Kyoto mechanism was innovated: emissions trading, the Clean Development Mechanism (CDM) and the Joint Implementation (JI). A lot of criticisms based on equity have been levied against this Kyoto mechanism. First, the emission trading scheme upheld by the US carries the notion of “pollution rights” and this emission rights were to be allocated based on past emissions-the so called “grandfathering approach” so that the developed countries have higher per capita emission levels.²⁴⁹

Second, with regard to the CDM, it is a joint-project mechanism which the developed countries can fund the projects in the developing countries that give rise to the mitigation of the climate change, and thereby they can gain the credits from the emissions reductions accruing from these projects. Through this “Kyoto surprise,”²⁵⁰ the North transfers the financial and technology resources to the South. Not only has the efficiency coming from emissions trading been addressed but also taken the considerations of the equity principle that the South adheres to.²⁵¹ Nevertheless, the inequality might still prevail because the CDM, even the Joint Implementation (JI) between developed countries, would benefit the donor industries “from the least costly emissions reductions in the early phases, leaving the costs of more expensive ones to developing countries.”²⁵² The “joint projects may [only] transfer emission abatements from the developed to the developing world,” as Brazilian delegations exhorted that they did not want to

²⁴² Joseph R. DesJardins (1993) *Environmental Ethics: An Introduction to Environmental Philosophy* (Belmont: Wadsworth Publishing Company):81.

²⁴³ UNFCCC 1992, Article 2.

²⁴⁴ UNFCCC 1992, Article 3(1).

²⁴⁵ UNFCCC 1992, Article 3(1).

²⁴⁶ UNFCCC 1992, Article 4(4).

²⁴⁷ UNFCCC 1992, Article 4(3).

²⁴⁸ Ellen Wiegandt, *Climate Change, Equity, and International Negotiations*, p.145.

²⁴⁹ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century*, p.188-189.

²⁵⁰ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.101

²⁵¹ Ellen Wiegandt, *Climate Change, Equity, and International Negotiations*, p.138.

²⁵² *Ibid.*, 139.

exchange “smoke for trees.”²⁵³ Even, the JI would lead to a form of “neo-colonialism” as developed investor countries shift away their domestic actions. The terms of specific JI projects agreed between the investors and recipients would only favor the investor countries because of the huge power differences between them.²⁵⁴

Virtually, the most contentious problem rests upon how to and through which specific mechanism to facilitate the finance and technology resources to developing countries. The competing views about the financial mechanism revolved around its formation and size of the fund. Developing countries sought to establish a new fund under the direct control of the COP to avoid the dominance of the North in the exiting international financial organizations, whereas developed countries wished to use the Global Environment Facility (GEF), a joint project of the World Bank, UNEP, and UNDP that was set up in 1991.²⁵⁵ As a result, the GEF was accepted as the “interim” financial agency and has an “equitable and balanced representation of all Parties within a transparent system of governance.”²⁵⁶ Until the COP4, the GEF was designated the permanent basis.²⁵⁷ Obviously in this respect the South lost. Notwithstanding, later the Special Climate Change Fund (SCCF) and Least Developed Countries (LDC) Fund were established to support the technology transfer and adaptation projects, taking account of “the specific needs and special situations” of the LDCs.²⁵⁸

In all, allocation of responsibility of emissions reductions to the developed countries has conformed to the polluter-pay-principle. Also, “common but differentiated responsibilities” in a way elaborated the equity principle by considering the different development conditions among countries. It is in line with the ethics that the developed countries have to take the lead to combat the climate change and assist the developing countries through resources transfer. On the other hand, the financial and technology transfer mechanisms have given the developing countries opportunities to increase their sustainable development while the developed countries can gain the emission credits. Simply the financial mechanism behind is dominated by the developed countries.

5.6 Clear-cut and Effective Compliance Mechanisms

The trait of public-good nature of atmosphere might preclude the international efforts to reach agreements on arrangements that would yield benefits for all countries. The developing countries without compulsory commitments of GHGs reduction could as well share the benefits from the commitments that the developed countries fulfill. In this respect the developing countries would turn out to be free riders.²⁵⁹ Even if the developing countries make the reduction commitments, each one including developed countries would be entrapped by distrust that each would honestly comply with the provisions of the Protocol.

This situation highlights that a clear-cut and reliable compliance mechanism is needed to reassure the efforts they made. It requests “the development of rules that are transparent in the sense that compliance with their requirements is easy to verify” and “easy to police,”²⁶⁰ assuring the behaviors of the members conform to the institutional arrangements. In addition, the success of regime also relies on the abilities of the members to abide by the rules they devise. Because the noncompliance might occur due to their incapacities coming from a lack of resources, lack of technological abilities, lack of willingness²⁶¹ or even merely inadvertence.²⁶²

In Kyoto Protocol, the reporting and review of national communications—a method tied to the one under the Convention—acts as the basis of the compliance mechanism. The COP gathers and reviews information from national communications which the Annex I Parties are required to submit. These national communications include annual inventories of anthropogenic emissions by sources and removals by sinks. Also, they shall contain “the necessary

²⁵³ Earth Negotiations Bulletin, vol. 12 No. 21, 10 April 1995, p. 5.

²⁵⁴ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol*, p. 152.

²⁵⁵ Daniel Bodansky, *History of the Global Climate Change Regime*, p. 33.

²⁵⁶ UNFCCC 1992, Article 11(2)

²⁵⁷ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol*, p. 42.

²⁵⁸ UNFCCC 1992, Article 4(9)

²⁵⁹ Ellen Wiegandt, *Climate Change, Equity, and International Negotiations*, p. 136.

²⁶⁰ Young, *International Governance*, p. 111.

²⁶¹ *Ibid.*, 112.

²⁶² Ronald B. Mitchell (2001) “Institutional Aspects of Implementation,” in Urs Luterbacher and Detlef F. Sprinz (ed.) *International Relations and Global Climate Change* (Massachusetts: The MIT Press): 232.

supplementary information for the purposes of ensuring compliance with Article 3” of the Protocol.²⁶³

Thereafter, the information submitted under Article 7 shall be reviewed by “in-depth review teams” coordinated by the Secretariat.²⁶⁴ In a way of collecting and reviewing national communications, “information [from national communications] plays a role in increasing the transparency of implementation and compliance records of states.”²⁶⁵

Besides, concerning how to devise and implement methodologies of the emission inventories for each party, the Article 5 specifies that Annex I Parties shall set up national systems for estimating GHG emissions and removals by the end of 2006 at the latest. The first Conference of the Parties serving as the meeting of the Parties to the Protocol (COP/MOP) will have to decide on related guidelines.²⁶⁶ By means of reporting and reviewing each party’s communication, the COP assesses and ensures the Parties’ enforcement of their obligations. Amongst the information submitted, the compliance assessment in the Protocol largely underlines the role of sinks for carbon dioxide and the mechanism for international transfer due to technical difficulties in estimating sinks and possible intentional noncompliance.²⁶⁷

On the role of sinks, Article 3(3) states that GHG emissions sources and removals by sinks shall be reported in a transparent and verifiable manner.²⁶⁸ The COP/MOP shall in its first session decide upon modalities, rules and guidelines as to forest-related emissions and removals. Also, it shall consider “uncertainties, transparency in reporting, verifiability, the methodological work of the IPCC, the advice provided by the SBSTA in accordance with Article 5 and decisions of the COP.”²⁶⁹ On the other hand, as for the compliance assessment of the mechanisms for international transfer, Article 6 on the JI specifically excludes Parties that do not obey Article 5 and 7 on methodologies and reporting from acquiring emission reduction units (ERUs).²⁷⁰ The first COP/MOP has to further elaborate guidelines for implementing JI, including verification and reporting. Article 12 on the CDM and Article 17 on emissions trading also contain a similar provision.²⁷¹

As we can see, much work of implementation guidelines for the Kyoto mechanisms would depend on the subsequent elaboration process, a process begun in 1998 in the Buenos Aires negotiations.²⁷² From its repeated call for accountability and verification in the Protocol, a fact is highlighted that the innovative Kyoto mechanisms have introduced unique challenges into the compliance of the Protocol. The main reason lies in that the Kyoto mechanisms complicate the assessment of GHGs emissions. The flexibility and resultant ambiguity of Kyoto mechanisms have placed obstacles on achieving “obligational clarity, performance clarity, and response clarity”²⁷³ that reliable compliance mechanisms rest upon.

First, it is clear that the principle of “common but differentiated responsibilities,” taking account of different capacity of each party, has rendered different levels of emissions reductions for Annex B. This design might prevent the occurrence of noncompliance as a result of their incapacities.²⁷⁴ However, the flexibility of Kyoto mechanisms has caused the problems of “obligational clarity.” For example, the emission trading system has made it difficult for Secretariat to track the new Annex B obligations of buyers and sellers. The JI and CDM have also brought in several challenges such as how to establish project baselines and how to clarify the distribution of responsibility between buyers and sellers in the event of project shortfalls.²⁷⁵

Second, it is difficult to achieve the “performance clarity” which reporting, monitoring and

²⁶³ Kyoto Protocol 1997, Article 7(1). The supplementary information in the communications should include policies and measures, joint fulfillment of obligations, JI, CDM and Emissions Trading activities.

²⁶⁴ Kyoto Protocol 1997, Article 8.

²⁶⁵ Michael Faure and Jürgen Lefeverev, *Compliance with International Environmental Agreement*, p.146.

²⁶⁶ Kyoto Protocol 1997, Article 5(1).

²⁶⁷ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.143.

²⁶⁸ Kyoto Protocol 1997, Article 3(3).

²⁶⁹ Kyoto Protocol 1997, Article 3(4).

²⁷⁰ Kyoto Protocol 1997, Article 6(1)(c).

²⁷¹ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p.145-146.

²⁷² Ronald B. Mitchell, *Institutional Aspects of Implementation*, p.225.

²⁷³ *Ibid.*, p.228.

²⁷⁴ Michael Faure and Jürgen Lefeverev, *Compliance with International Environmental Agreement*, p.145.

²⁷⁵ *Ibid.*, 229.

verification provisions can offer transparency about what behaviors relevant actors undertook and what environmental outcome resulted.²⁷⁶ The cases in point are the project activities in the JI and CDM, they all acquire the baseline assessment. It is hard to determine “whether a project caused observed environmental changes (and therefore deserves to have those reduction counted toward project or national obligations).” The reason lies in the “uncertainty regarding whether a reduction actually occurred and, if so, whether that reduction was caused by the project.”²⁷⁷ With respect to sinks for carbon dioxide, to ascertain and monitor how much carbon sinks sequestration come from deforestation and afforestation is also problematic, since there are enormous problems in documenting carbon sequestration.²⁷⁸

Third, the “response clarity” refers to how the Secretariat and Parties will respond to compliance and violation. In the Protocol, the expert compliance-review teams envisioned under Article 8 of the Protocol undertake to review and assess the implementation of the commitments and identify any problems in the fulfillment of commitments. However, “[the] provisions on how to review communications as a whole are more vague.”²⁷⁹ The response toward noncompliance cases is still in the air. It only requires the future COP/MOP to approve effective procedures and mechanisms, i.e., developing an “indicative list of consequences”²⁸⁰ for noncompliance to address cases of violation. Neither “the ease with which violations on the part of subjects can be detected,” nor “the probability that violators will be subject to sanctions”²⁸¹ is possible for the time being. Even the dispute of settlements envisaged under Article 19 “are wisely regarded as almost useless.”²⁸²

From perspectives of the realization of the “obligational clarity, performance clarity and response clarity” in the compliance of the climate regime, though the Kyoto Protocol clearly stipulates the goal of GHGs emissions reductions, it is not easy to verify and monitor how countries will achieve compliance in the situation that the complicating factors of flexible mechanisms prevail. The complexity of the climate change issue covered by the Protocol has lessened the transparency with respect to the compliance record.²⁸³

As a “best-efforts” regime, the design of the Kyoto provisions “does not require quantifying and codifying exactly what each country will do; nor does it envisage holding a country’ feet to the fire if it fails to comply.”²⁸⁴ The underlying problem of compliance lies in that the governments attempted to codify specific, stringent commitments into climate regime before they had much clear ideas about how to implement such commitments. Further these commitments are complicated by its innovative flexible mechanisms. As a consequence, the absence of a clear-cut compliance mechanism in the Protocol came as no surprise.

5.7 Leadership

The leadership on the part of individuals plays a crucial role in determining the outcome of institutional bargaining. “[L]eadership exercised by individuals is a necessary condition for regime formation,”²⁸⁵ though it is not a necessary one. Especially in a situation of international multilateral negotiation which the larger numbers of actors are involved with, the more complicated the issue is, the more necessary the effective leadership is so as to move forward the final agreement.²⁸⁶

²⁷⁶ Ibid.

²⁷⁷ Ibid.,236.

²⁷⁸ David Victor (2001)*The Collapse of the Kyoto Protocol and the Struggle to Slow Global Warming*(Princeton: Princeton University Press):57.

²⁷⁹ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment.*,p.145.

²⁸⁰ Kyoto Protocol 1997, Article 18.

²⁸¹ Oran R. Young(1992) “The Effectiveness of International Institutions: Hard Cases and Critical Variables,” in James N. Rosenau and Ernst-Otto Czempiel(ed.) *Governance Without Government: Order and Change in World Politics*(Cambridge: Cambridge University Press):176.

²⁸² Michael Grubb, *The Kyoto Protocol: A Guide and Assessment.*,p.148.

²⁸³ Michael Faure and Jürgen Lefevere, *Compliance with International Environmental Agreement*,p.147.

²⁸⁴ David G. Victor (2003) “International agreements and the struggle to tame carbon,” in James M. Griffin(ed.) *Global Climate Change: The Science, Economics, and Politics*(USA: Edward Elgar):212.

²⁸⁵ Oran R. Young and Gail Osherenko (1993) *Polar Politics: Creating International Environmental Regimes* (Ithaca and London):235.

²⁸⁶ Arild Underdal (1994) “Leadership Theory: Rediscovering the Arts of Management,” in I. William Zartman (ed.) *International Multilateral Negotiation: Approaches to the Management of Complexity* (San

During regime formation, three typologies of leadership are identified: intellectual, entrepreneurial, and structural leadership.²⁸⁷ An intellectual leader employs the power of ideas to influence the bargaining process. Rising out of self-interest, an international entrepreneur is an actor with skills of “inventing new institutional arrangements and brokering the overlapping interests of parties concerned with a particular issue.”²⁸⁸ A structural leadership, which corresponds to coercive leadership,²⁸⁹ is an individual who brings his or her party’s structural power (from material resources) to affect “the incentives of others to accept one’s own terms or at least make a concession.”²⁹⁰ The emergence of any type of these leaderships will be crucial to success in the regime formation.

First, the high uncertainty and complexity of climate change issue have made the importance of intellectual leader salient. The IPCC led by Chairman Bert Bolin played a role of producing, clarifying and disseminating the climate-related information by issuing its assessment reports. However, the independent influence of intellectual leadership exercised by the IPCC has declined because the government began to play a greater role in negotiations from 1988 to 1990.²⁹¹ Also, in light of an authoritative provider of science advice, “the IPCC was, by 1993-94, on the verge of becoming irrelevant within the climate regime.” The cause is that the SBSTA with its higher credibility and legitimacy is able to interpret and revise the findings of the IPCC, offsetting the authority of the IPCC.²⁹² At large, the independent influence from the IPCC is visible in the early negotiations while fading during the formal bargaining stage of Kyoto Protocol.

Of great importance is that in the final days of Kyoto negotiation, the individual entrepreneurial leadership, exerted by Chairman Estrada of the Committee of the Whole (COW) in Kyoto, played a catalytic role of reaching final agreement. In the final hours of 11 December 1997, Estrada demonstrated his determination against any objections and dismissed most draft articles by his gavel; instead he inserted his revised wording of text into procedure. In the end his authority and adroitness have marked the recommendation of the COW to adopt the Kyoto Protocol by unanimity.²⁹³ This outstanding “Estrada factor”²⁹⁴ epitomized the entrepreneurial leadership for fostering the completion of the Kyoto Protocol.

With respect to the structural leadership, no single participant can qualify as a hegemon, an extreme case of structural leadership in the process of the climate regime formation.²⁹⁵ The reason behind that is the difficulty to define the compositions of a hegemon in the climate case, simply in term of material resources. For example, the US is undoubtedly a hegemon in term of military and economic resources. However, it does not mean the US would be a hegemon on the grounds that it emits one-quarter of global CO₂. Even if the US with largest GHGs emissions acts as a “climate hegemon” as Rowlands assumes, the result of Kyoto negotiation showed that the US was unable to exert its coercion over other states and did not reach its most favored arrangements in Kyoto Protocol such as the participation of the developing countries.²⁹⁶

Nevertheless, the structural element of leadership remains important. Other than the dominance of hegemon, other states such as the EU and Japan as well carry a lot of weight during the final Kyoto negotiations owing to their lesser extent of structural power. Noticeably, the Netherlands, under its Presidency of the Environment Council of the EU, successfully linked to leadership during negotiations of Kyoto Protocol on behalf of the EU which provided the framework for it to materialize its leadership potential.²⁹⁷ However, in the final days of COP3,

Francisco: Jossey-Bass Publishers): 179-180.

²⁸⁷Oran R. Young and Gail Osherenko, *Polar Politics: Creating International Environmental Regimes*, p.18.

²⁸⁸ Young, *International Governance*, p.114.

²⁸⁹ Underdal, *Leadership Theory: Rediscovering the Arts of Management*, p.186.

²⁹⁰ Ibid.

²⁹¹ Daniel Bodansky, *History of the Global Climate Regime*, p.28.

²⁹² Clark A. Miller, *Challenges in the Application of Science to Global Affairs*, p.260,275.

²⁹³ Ibid.,90-91.

²⁹⁴ Ibid.,84.

²⁹⁵ Ibid.,37.

²⁹⁶ Ian H. Rowlands, *Classical Theories of International Relations*, p.46-47.

²⁹⁷ Kanie Norichika, “Leadership in Multilateral Negotiation and Domestic Policy: The Netherlands at

the EU leadership was stuck in what was known in Kyoto as the “EU bunker”: “as EU member States clumsily tried to bridge their internal differences on various proposals on the table, there were hardly able to react to outside developments, let alone take the initiative to steer events.”²⁹⁸ The EU has lost its chance to build winning coalitions with other states while struggling in its internal divergence.

To be sure, the post-Kyoto developments were paralyzed because of lack of leadership from the US since the US accounts for no less than 35 percent of carbon emissions in 1990. However, the fact is that since Bush administration abandoned the Kyoto Protocol in March 2001, the Kyoto process is still going on and will put into force with the ratification of Russia on 22 October 2004.²⁹⁹ The persistence of the Kyoto protocol primarily rests upon the demonstration of the leadership of the EU with the ambition of being an international leader in climate politics.³⁰⁰

Without the US joining, the EU instead takes the lead to persuade other Annex 1 countries’ ratification of the Kyoto Protocol. Therefore, rather than the importance of a hegemon, a leadership which any actor can take may also serve as another important driving force in the successful regime. Especially when a form of structural leadership appears and deploys “material resources strategically to induce others to sign onto the central deals that make constitutional contracts go.”³⁰¹ Often it is involved with the use of rewards or side payments to persuade other parties to acquiesce. During the post-Kyoto negotiation, the EU seemingly fails to take this form of leadership due to the resistance of the “Gang of Four.”³⁰² However, as of today, the EU successfully demonstrates this leadership as it employs the support for Russia’s bid to join the World Trade Organization as a side payment to lure Russia to ratify the Protocol.³⁰³

5.8 Summary

The efforts to devise the substantive agreement on the climate change have epitomized the institutional bargaining. The examination of the determinants of success and failure of institutional bargaining in creating climate regime has resulted in a mixed picture. To the role of structural considerations, the extent to which the climate change lends itself to *contractarian environment* was fairly large at the beginning of the negotiation and thereafter turned out to be small. That is, in the early negotiations of UNFCCC, the veil of uncertainty resulting from imperfect information has facilitated the *integrative bargaining* in efforts to explore much more possibilities of mutually acceptable arrangements. However, since the COP2 confirmed the reliable scientific information which reduced the degree of uncertainty and made the winner and losers more salient, the *distributive bargaining* pervaded. Thus, it took much longer to devise the substantive rules for climate change.

To situational considerations, although the cross-border impact of climate change is ongoing, the factor of *the exogenous shock and crisis* did not carry much weight in accounting for climate regime formation because of its lesser extent of compelling and shocking consequences. Conversely, the emergence of the effective leader is considerably crucial to the climate regime formation. The entrepreneurial leadership exercised by Chairman Estrada has facilitated and accelerated the process of negotiation to the final agreement. To process considerations, the arrangements devised by the parties in essence met the principal equity demands of all parties concerned. The adoption of the polluter-pay principle, common but differentiated responsibilities and the mechanism of technology and financial transfer for the developing countries reflected this point. The equity considerations have been in a degree embedded in the provisions of the Protocol. However, beyond that, the set-up of flexible

the Kyoto Protocol Negotiation,” *International Organization* 8 (2) (September 2003):339-365.

²⁹⁸Sebastian Oberthür and Hermann E. Ott, *The Kyoto Protocol*, p. 268.

²⁹⁹ Press release of the UNFCCC website.28 October 2004.<http://unfccc.int/2860.php>

³⁰⁰ Jon Hovi, Tora Skodin and Steinar Andresen, “The Persistence of the Kyoto Protocol: Why Other Annex 1 Countries Move on Without the United States,” *Global Environmental Politics* 3(November 2003):1-23.

³⁰¹ Young, *International Governance*,p,90.

³⁰² “Gang of Four” refers to Australia, Canada, Japan and Russia. See Jon Hovi, Tora Skodin and Steinar Andresen, *Global Environmental Politics* 3, p,19.

³⁰³ Russia Backs Kyoto Climate Treaty, BBC News, 30 September 2004.

<http://news.bbc.co.uk/2/hi/europe/3702640.stm>

mechanisms (emission trading, the JI and CDM) and financial mechanism have treated the developed countries in a more favorable light.

With regard to the substance of Kyoto arrangements, the absence of the salient solution and less clear-cut compliance mechanism have plagued the process of Kyoto negotiation. Salience based on simplicity and clarity is hardly identified in the climate regime owing to the complexity of flexible arrangements. Nor was the reliable and transparent compliance mechanism established due to the underlying problems of “obligational, performance and response clarity.” Much work of elaboration of the compliance systems has been postponed to the first convening after Kyoto.

6. Post-Kyoto Development and the Implementation

6.1 Introduction

As one of the most ambitious but also ambiguous legal instruments, much of its content in the Kyoto Protocol represents “unfinished business” and requires further elaboration in the future.³⁰⁴ Instead of establishing an interim body for guiding its implementation, the climate change COP asked the existing subsidiary bodies to the Convention- the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA) to give guidance and discuss the implementation of the Kyoto Protocol.³⁰⁵ The issues related to the Kyoto Protocol, namely the flexible mechanisms, were thereby considered within joint SBI/SBSTA sessions.

6.2 The Follow-ups to the Kyoto Protocol: The Implementation Phase

First, Parties met again in Buenos Aires in November 1998 at COP-4. The COP-4 adopted the Buenos Aires Plan of Action (BAPA) intended to produce a detailed set of recommendations on the operation of the emissions trading, the JI, and the CDM that could be adopted at COP-6. Priority within this BAPA was given into issues with respect to securing the participation of developing countries.³⁰⁶ At the same time, the US signed the Kyoto Protocol and Argentina became the first non-Annex I Party to voluntarily accept obligations to reduce GHGs emissions.³⁰⁷

The COP-5 held in Bonn in 1999 centered on the agenda based on the COP-4 BAPA. No substantive decisions were made in COP-5. The COP-6 was held in The Hague in November 2000 but the process came to a halt due to the sharp conflict regarding the role of sinks. Besides proposals for no limits on the emission trading, the US sought credit for its forests as carbon sinks, thereby greatly reducing the pressure on its binding targets. But the EU refused to yield to the US and concerned that allowing so much flexibility would only diminish the effect of the Kyoto Protocol.³⁰⁸ The COP-6 resumed in Bonn in July 2001 to further address the issues that stalled at The Hague. Prior to that, the Bush administration in March 2001 announced that the US would no longer support the Kyoto Protocol activities. As a result, with the absence of the US, Parties formulated the “Bonn Agreements,” registering consensus on key political issues under the BAPA. But the formal adoption of the Bonn Agreements was deterred until the COP-7.

The COP-7 was held in Marrakesh in October and November 2001. It refined the Bonn Agreement in three main areas: defining the “principles, nature and scope” of the international flexibility mechanisms; finalizing the accounting rules for sinks derived from land use, land-use changes and forestry (LULUCF); and designing an enforcement mechanism to discourage noncompliance. The result was the Marrakesh Accords which gives effect to the Bonn Agreements. However, of importance is that the exit of the US has made “Gang of Four”-Japan, Australia, Canada, and Russia- able to extract concessions from other countries at COP-7. In order to maintain the life of the Kyoto Protocol, the EU has made considerable concessions to

³⁰⁴ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol*, p.95.

³⁰⁵ Chasek, *Earth Negotiations*, p.218.

³⁰⁶ Warwick J. Mckibbin and Peter J. Wilcoxon (2002) *Climate Change Policy after Kyoto: Blueprint for a Realistic Approach* (Washington D.C: Brookings Institution Press):47.

³⁰⁷ Norman J. Vig and Regina S. Axelrod (1999) *The Global Environment: Institutions, Law, and Policy*, p.232.

³⁰⁸ Marvin S. Soroos (2002) “Negotiating Our Climate,” in Sharon L. Spray and Karen L. McGlothlin(ed.) *Global Climate Change* (Lanham: Rowman and Littlefield Publishers, Inc):134-135.

the Gang of Four. “[W]hile the result of the resumed COP-6 was a ‘Kyoto-light’ agreement, this result turned into a ‘Kyoto ultra-light’ after the Marrakesh meeting.”³⁰⁹ Therefore, the revised Kyoto Protocol has largely gone back to closely what the previous US worked to achieve.

The COP-8 was held in October 2002 in New Delhi by concluding the “Delhi Ministerial Declaration on Climate Change and Sustainable Development.” It acknowledged the importance of the adaptation to the climate change and reaffirmed the development and poverty eradication as overriding priorities in the developing countries.³¹⁰ The COP-9 held at Milan in December 2003 has reached agreement on “modalities and scope for carbon absorbing forest-management in the CDM” which was adopted in Marrakesh two year ago, good practice guidance on LULUF and further developed the Special Climate Change Fund (SCCF) and Least Developed Countries (LDC) Fund.³¹¹ Regardless of the lack of significant progress, the COP-9 proved that the climate change issue remains on the high political agenda and efforts to combat the climate change are underway and gaining momentum. The chronological process of the post-Kyoto negotiation is presented as the following Table 2.

Table 2 The Post-Kyoto follow-ups as the implementing phase

Meeting	Place	Date	Result
COP-4	Buenos Aires	November 1998	Buenos Aires Plan of Action (BAPA) to reduce the risk of climate change
COP-5	Bonn	November 1999	The Parties pledge to finalizing the Kyoto Protocol at COP-6
COP-6 I	The Hague	November 2000	A statement between the US(request credits for its forests as carbon sinks) and the EU thwarts final agreements on the Kyoto protocol.
COP-6 II	Bonn	July 2001	1. Discuss the institutional and financial arrangement for implementation of the Kyoto Protocol. 2. US withdrawal from negotiations.
COP-7	Morocco	October 2001	Marrakesh Accords which agree the rules for ensuring compliance of commitments and LULUCF principle.
COP-8	New Delhi	October 2002	Delhi Ministerial Declaration on Climate Change and Sustainable Development
COP-9	Milan	December 2003	1. Strengthening Institutions and procedures of the Protocol and UNFCCC 2. new emission reporting guidelines based on the good-practice guidance 3. adopt modalities and scope for carbon absorbing forest-management in CDM 4. Special Climate Change Fund and Least Developed Countries Fund.

6.3 The Implementation of the Kyoto Protocol: The Problem and Prospect

The effectiveness of the international agreements relies on its implementation. “Implementation refers to the specific actions that states take to make international treaties operative in their national legal system.”³¹² Both the rules of compliance envisaged in the treaty and the state’s national action are indispensable to the implementation of the treaty. When the state’s action conforms to the treaty prescriptions, “compliance effectiveness” exists.³¹³

With regard to the implementation of the Kyoto Protocol, the Protocol requires its Annex I

³⁰⁹ Jon Hovi, Tora Skodin and Steinar Andresen, “The Persistence of the Kyoto Protocol: Why Other Annex I Countries Move on Without the United States,” *Global Environmental Politics* 3(November 2003):19.

³¹⁰ Earth Negotiations Bulletin.vol.12 No.209, 4 November 2002. p,1.

³¹¹ Earth Negotiations Bulletin.vol.12 No.213, 15 December 2003. p,1.

³¹² Norman J. Vig and Regina S. Axelrod, *Compliance with International Environmental Agreements*, p.139.

³¹³ M.J. Peterson (2001) “International Organizations and the Implementation of Environmental Regimes,” in Clark A. Miller and Paul N. Edwards (ed.) *Changing the Atmosphere: Expert Knowledge and Environmental Governance* (Cambridge: The MIT Press):116.

Parties to submit their national communications which include annual inventory of anthropogenic emissions by sources and removals by sinks, calculated using standard guidelines based on IPCC methodologies.³¹⁴ They have to follow the reporting guidelines which have been revised at COP-2 and COP-5 for the second and third national communications respectively. Thereafter, in-depth review procedures conducted by the experts review team (ERT), are taken to examine the information from national communications.³¹⁵ The ERT issued the in-depth review reports to help the COP in assessing the implementation of Annex I Parties. The ERT has the mandate to raise any apparent implementation problems with the Compliance Committee. Through this “compliance information systems”³¹⁶ the COP is able to assure its Parties to accomplish the goal of the Protocol.

However, a lot of guidelines concerning the compliance mechanism were not elaborated during the negotiation of the Protocol. Many of them are left to the subsequent meetings which centered on the rules and operational details of the Protocol. Obviously, notwithstanding the interruption from the Umbrella Group countries,³¹⁷ the COP-7 with its Marrakesh Accords has made a significant progress on the details of Article 5, 7, and 8. They deal with reporting and review of information as well as national systems and methodologies for the preparation of GHGs inventories. Also, a Compliance Committee is established and functions through a facilitative and an enforcement branch. The enforcement branch is responsible for determining the compliance of the Annex I Parties. As the ozone layer regime does,³¹⁸ a “Party-to-Party trigger” system was adopted to allow a Party with respect to another Party to submit questions of implementation to the Compliance Committee.

Most importantly, a key issue which will make or break the compliance system, relating to the issue of legal nature of decisions made by the enforcement branch, was left to the COP/MOP to decide the legal form of the procedures and the mechanisms relating to compliance.³¹⁹ That is, the approval of compliance procedures will be made “in decision form in addition to any amendment entailing binding consequences.”³²⁰ This has weakened the strengths of the climate regime because of its absence of clear-cut legally-binding eligibility requirements to use the mechanism.³²¹

Apart from that, the success of the implementation of the Protocol principally rests upon “the extent to which national policy efforts actually comply with new international obligations.”³²² That is, the states’ action to submit national communications to the Secretariat constitutes the reaching of their obligations. Depending on their national policy efforts, some countries act as “laggards,” avoiding the Protocol obligations such as JUSSCANNZ,³²³ particularly the US,³²⁴ while others perform as “leaders” such as the EU which endeavors to comply with treaty commitment. States which fail to meet the requirements under the Protocol are regularly owing to their incapacities. For example, some developing countries are unable to submit the national communications.

³¹⁴ The Kyoto Protocol, Article 7. Also, SBSTA 12(Bonn, June, 2000) conclude that the reporting guidelines for annual GHGs inventory should be based on the “good-practice guidance” contained in the IPCC.

³¹⁵ The Kyoto Protocol, Article 8.

³¹⁶ Norman J. Vig and Regina S. Axelrod, *Compliance with International Environmental Agreements*, p.149.

³¹⁷ Umbrella Group countries: Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russia Federation, Ukraine and the US.

³¹⁸ M.J. Peterson, *International Organizations and the Implementation of Environmental Regimes*, p.125.

³¹⁹ Earth Negotiations Bulletin, vol.12 No.189, 12 November 2001. p,7.

³²⁰ Earth Negotiations Bulletin, vol.12 No.189, 12 November 2001. p,16.

³²¹ Ibid.

³²² Robert O. Keohane, Peter M. Haas and Marc A. Levy (ed.)(2001) *Institutions for the Earth: Sources of Effective International Environmental Protection*(Cambridge: The MIT Press):16.

³²³ JUSSCANNZ is an acronym that denotes Japan, the US, Switzerland, Canada, Australia, Norway and New Zealand.

³²⁴ Robert L.Paarlberg (1999) “Lapsed Leadership: U.S. International Environment Policy Since Rio,” in Norman J. Vig and Regina S. Axelrod(ed.) *The Global Environment: Institutions, Law and Policy*(Washington: Congressional Quarterly, Inc).

When noncompliance occurs due to a lack of resources or a lack of technological abilities, the design of the Protocol might have prevented this situation. The reason rests upon that the Protocol adopted a differentiation of the obligations related to each party's capacity and a transfer of funds and technology from the developed countries to the developing countries.³²⁵ For non-Annex I Parties with fewer resources, they are only requested to submit their national communications.³²⁶ When they are unable to submit communications, reporting this capacity problem may well be in their interests because they would gain the remedies to overcome their incapacities through a transfer of finance or technology rather than the imposition of sanctions.³²⁷

Until 30 September 2004, there are 118 out of 148 non-Annex I Parties who have submitted the initial national communications; whereas only 3 countries submitted their second ones.³²⁸ Virtually those unable to submit their second communications could gain the funding through the GEF which has been extended to support for capacity-building of developing countries to address climate change issues, an agreement reached at the COP-4.³²⁹ As for the Annex I Parties, by March 2004 the UNFCCC Secretariat received 37 national communications and 36 inventory submissions in 2003.³³⁰ On the whole, the reporting from the Annex I Parties is fairly high; however, one problem for this self-reporting system might occur. That is, "the value of data can be reduced by systemic errors" due to under report or misreport.³³¹ One remedy for this weakness of self-reporting can be upon the role of the Secretariat playing an effective centralized information manager and the expert review team (ERT) cross-checking the national communications.³³²

Apart from the "compliance effectiveness," the implementation of the Protocol as well relies on the "result effectiveness" of the Protocol. "Result effectiveness exists when the behavior promoted by the regime produce real environmental improvement."³³³ In essence, the actions taken by the Annex B Parties now are still far away the goal of the Protocol which requests them to reduce GHGs emissions at least 5% below 1990 levels in the commitment period 2008 to 2012.³³⁴ For example, even as the pioneer in complying with the climate requirements, the EU is unable to reach its goal of GHGs emissions reductions. Its total emissions are expected to increase by some 6% from the 1990 level by 2010 if further measures are not taken.³³⁵

Although the reduction by 4.6 % of total emissions by Annex I from 1990 to 1995 is reached, it is mainly due to the economic decline in EITs. The 5.2% overall reduction target in the Protocol represents a mere stabilization of emissions at levels of 1995.³³⁶ Even the Annex I Parties reach the objective of the Protocol, the total GHGs emissions are still going to rise. At least the reduction of current GHG by 50% by 2018 is needed so as to stabilize the concentration of such gases.³³⁷ Apparently, the Protocol fails to meet the "result effectiveness" at the moment.

6.4 Summary

As we can see, a managerial approach rather than an enforcement approach to compliance³³⁸ has maintained the "compliance effectiveness" of the Protocol by facilitating the implementation of obligations through solutions finding, for example, a transfer of finance or

³²⁵ Michael Faure and Jürgen Lefevere, *Compliance with International Environmental Agreements*, p. 145.

³²⁶ The Kyoto Protocol, Article 10(b)(ii).

³²⁷ Ibid., 150.

³²⁸ The UNFCCC website, National Report, Non-Annex I National Communications.

³²⁹ Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, p. 249.

³³⁰ The UNFCCC website, National Report, Annex I National Communications.

³³¹ M. J. Peterson, *Implementation of Environmental Regimes*, p. 127.

³³² Ibid.

³³³ Ibid.

³³⁴ The Kyoto Protocol, Article 3(1).

³³⁵ Sebastian Oberthur and Hermann E. Ott, *The Kyoto Protocol*, p. 293.

³³⁶ Ibid., 273.

³³⁷ Miller, *Living in the Environment*, p. 471.

³³⁸ Norman J. Vig and Regina S. Axelrod, *Compliance with International Environmental Agreements*, p. 150.

technology. However, the Parties might lose incentives to comply because the unresolved binding nature of decisions made by the enforcement branch has weakened its authority in dealing with noncompliance. On the other hand, from the perspective of the “result effectiveness,” the objective of the Protocol might be met, but certainly not by the efforts taken by most Annex I Parties.

7. Final Conclusion

The formation of climate change regime has exemplified the institutional bargaining for a global climate regime. By examining the determinants of success of institutional bargaining in the climate talk, we can get a clear picture of the process and dynamics of the climate regime formation. During the process of post-Rio negotiations, different participants exercise their bargaining leverages in attempt to gain their most favored arrangements. The contractual environment blurring the zone of agreement and veiling the future distribution of benefits has enabled the Parties to strike an integrative bargaining in the initial phase of the climate negotiation; whereas this momentum has declined as the distributive concerns over winner-or-loser result prevail.

During the process, the factor of exogenous shock or crisis did not offer a significant chance of encouraging the integrative bargaining to refocus the parties’ common interest. In addition, the endeavors to craft the equitable solutions are more or less reflected in the provisions of the Protocol, while other efforts to formulate a salient solution to deal with the climate change problem and a clear-cut compliance mechanism did not promote the institutional bargaining to bear fruit. Under such an unfavorable situation, the driving force of the entrepreneurial leadership of Chairman has acted as a catalyst for the completion of the Kyoto Protocol. Several implications from the institutional bargaining perspective are identified as follows:

7.1 Scientific Information Matters:

In the initial stage of climate regime formation, an integrative bargaining prevails because the INC and the IPCC set the tone of treating the climate change as a global commons problem, rather than an issue in which the objectives of the states are assumed to be in conflict. Therefore, the participants were willing to find out the common interest and explore more possible solutions, avoiding to be stuck in the distributive bargaining. The main reason behind it is that the imperfect information relating to the climate change has served as a condition which facilitates the negotiation process. In the real climate talk, the negotiators were regularly unsure with their interests and preferences owing to the absence of the scientific information. To each party, the critical influence concerning the extents, causes and cross-border impacts of climate change was unclear. As a result, they more or less showed their concerns and opinions only, not really down to the real conflict during the negotiation.

However, when the scientific evidence about the impact of climate change was available and certain, the climate-related winners and losers were thereby much more easily identified. The reduction of the veil of uncertainty induced the negotiators into a distributive bargaining over a least-cost deal for themselves. The clear information with respect to the climate change made who was winner or loser salient. To the least developed countries, climate change is a survival issue due to their low capacity to adopt the impact of climate change. Thus, they strive for stricter regulations for industrialized countries and call for the resource transfer. In contrast, to the Umbrella Group countries and the OPEC, they endeavor to devise a much looser institutional arrangement due to their economic interests.

Therefore, the provision of scientific information plays a crucial role of deciding the extent of the contractarian environment for the regime formation. The more reliable and clear scientific knowledge is available to the participants, the more clear the participants know their interests and preferences. As a consequence, the more distributive concerns over the outcome would prevail. In this way, the reliable scientific information and evidence did not foster the process of the reaching of climate agreement. In contrast, it slowed down the negotiation process.

7.2 The Role of Transnational Alliances

There were multiple actors joined the climate negotiation. States were the primary participants. The Secretariat functioned as a coordinated role of offering a convening forum and overseeing the implementation. The IPCC served as a knowledge-broker to clarify the climate-related information for policy makers. It specially has the most decisive influence in the

early stage of formation of climate regime. Other non-states such as environmental NGOs (ENGOs), corporations and scientific communities also take an important seat of influencing the process of climate regime formation. Particularly the role of individual, namely Chairman of the COP, is indispensable to the success of the completion of Kyoto Protocol.

Of great importance are the form and way that these actors exert their influence over the climate issue. The emergence of transnational alliances manifests a new mode of exercising powers and coordinating interests. Given the state alliances, there are the EU, JUSSCANNZ, OPEC, AOSIS, and China/ G77. Also, there are divergent positions among the North and South respectively. Among the North, the alliance of JUSSCANNZ is not in line with the EU. Among the South, the AOSIS is sharply against the OPEC and China/ G77. Noticeably in the climate case, the transnational alliance amongst actors is not as identical as the general division of the North and South. For example, the EU is more in the same line with the AOSIS, while the OPEC is at the US' side.

In addition, the non-state alliances including the ENGOs, business alliances and scientific communities also contribute to the climate regime formation.³³⁹ Through the transnational network and media, the ENGOs such as Climate Action Network (CAN) make the global warming issue salient and raise the public awareness. As the campaigners, though the ENGOs share with the identical goals, the divisions are still revealed among them owing to different political culture and the divide between the North and South. On the other side, the business and industry alliance strongly objects a regulatory convention on CO2 emissions reduction. But some businesses and industries begin to adjust themselves to this inevitable greening process and promise the voluntary measures for the global warming. With the shared causal belief and faith, the scientific research networks also function as a role of clarifying the problem and offering scientific proof concerning the climate change.

The NGO internally pressures for changes in the states' behavior; externally it expends its influence through the transnational "winning" coalition. However, in most occasions, the NGOs are restricted to the observer status and are still excluded in formal meetings or "close door" diplomacies. The state still dominates the climate negotiation. The independent influence from the NGOs during the hard bargaining stage is hard to identify. In the future, these "unofficials" should be given more rights to participate and full legal status.

7.3 The Importance of Equity

The Kyoto negotiation has spotlighted the efforts of all Parties to devise institutional arrangements in a sense that they feel fair and equitable, though "there are no objective standards for equity which can be applied to human affairs."³⁴⁰ The equity considerations have occupied the whole Kyoto negotiation: the problem of who has to bear the responsibility of the rising temperatures, how to allocate responsibility, how to assign quotas for emissions, how to select the base year for assigned GHGs amounts, how to treat the role of sink, and intergenerational equity. The provisions of the climate treaty largely reflect this equity concern by adopting the principle of "common but differentiated responsibilities" The protocol requests the industrialized countries to take the lead to reduce the GHGs emissions based on their historical responsibilities.

Also, they are required to assist the developing countries through a transfer of technology and finance. The special needs and conditions of developing countries are taken into account while reaching the goal of the Protocol. The establishment of the Special Climate Change Fund (SCCF) and Least Developed Countries (LDC) Fund has exemplified this concern. Besides, the invention of Kyoto mechanisms was aimed at reaching efficiency but the equitable considerations embedded cannot be ignored. Through the joint projects, the developing countries can get the financial and technology support and sustainable development, while the developed countries gain the emission credits accrued from these joint projects. Although the CDM and JI mechanism are accused of shifting the burden of emission reduction from the North to the South, the Kyoto negotiation might not have succeeded without these flexible

³³⁹ In 1992, the largest attendance of 10,000 NGOs members ever recorded gathered together at UNCED. The number of NGOs as observers during the Kyoto process increased from 165 NGOs in COP-1 to 236 in COP-3.

³⁴⁰ Young, *International Governance*, p.110.

designs.

On the whole, the cause and impact of the climate change have induced the equity debates concerning “allocation of responsibility to whom, allocation of what, and allocation according to what rules.” Under the consensus rule, the Kyoto negotiation has to take account of all Parties’ concerns to reach a more or less equitable decision. The design of flexible mechanisms just offers a win-win opportunity for both developed and developing countries. However, the GEF, the responsible financing entity, is largely dominated by the developed world.

7.4 Salient solution and clear-cut compliance mechanisms

The complexity of the climate change has precluded a possible salient solution against global warming. The complexity of Kyoto arrangements encompassing the differentiated emission reduction targets and three Kyoto mechanisms has bedeviled the efforts to devise a simple and salient solution. The reason lies in a large number of actors’ involvement in these flexible mechanisms and the resultant complicated technical problems. The endeavors to find out a salient solution failed during the Kyoto negotiation. However, it has shown that the salient solution did not virtually constitute a successful factor in reaching the Kyoto agreement. In contrast, it might impede the efforts to craft an appropriate institutional arrangement for climate change issue. The invention of the emission trading, CDM and JI mechanisms has accounted for this. Although these three innovations did not own a simple and salient trait, they might serve as an appropriate solution for addressing the global warming at the moment.

With respect to the compliance mechanisms in the Protocol, it principally relies on the self-reporting of national communications and expert reviews. A clear arrangement as such is designed for the compliance. Nevertheless, the flexible mechanisms have resulted in the problems of “obligational, performance and response clarity”. They complicated the compliance assessment of the international transfer mechanisms. Thus, it is difficult to monitor and verify how Parties achieve compliance in such a situation. What we can see is that Article 6 on the JI, Article 12 on the CDM and Article 17 on emission trading only called for further elaboration of their implementation in its first COP/MOP. On the other hand, from the perspective of “compliance effectiveness,” the capacity building measures through a transfer of finance might enhance the compliance effectiveness. But the unresolved legal nature of noncompliance has weakened the compliance effectiveness of the Protocol. As we can see, the availability of clear-cut and effective compliance mechanism was not a necessary condition for the climate regime formation, since much work of the guidelines of compliance systems were left to the future elaboration.

7.5. Leadership Initiative

The role of leadership is crucial to the climate regime formation. The intellectual leadership of the IPCC created and promoted the momentum for the efforts to devise institutional arrangements; the entrepreneurial leadership by Chairman Estrada during the final hard bargaining stage catalyzed the completion of the Kyoto Protocol. In the absence of the US participation, the EU later performed its structural leadership to persuade Russia to ratify the Protocol, though it failed to exert this leadership potential during the Kyoto negotiation. The emergence of these three types of leadership has fostered the climate regime formation and its implementation. The emphasis on the role of leadership first overcomes the critiques of the state-centered focus, because the leadership can be exercised on the part of states, individuals or other actors. Second, rather than the hegemon as the realists uphold, the concept of the leadership which any actor can exercise has offered a much suitable explanation for the climate regime formation. As a whole, the take on the role of the leadership provides a much more precise and united views on the regime formation.

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