

The Decline of Multilateral Cooperation: On the Rising of Fragmentation Mode for Governing Global Warming

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ABSTRACT

This article argues that the governance of global warming based on the multilateralism is almost going to be defunct. The flaws of its institutional design as well as the misunderstanding of warming governance turn those larger emitting countries into the advantage on the one hand, and the exception of reducing the amount of carbon dioxide on the other. However, some of such powerful emitters have cleverly organized the 'fragmentation mode', which is more effective than traditional multilateralism. In light of three bilateral agreements signed by larger emitters, this article points out that it is necessary to discard current multilateral mode; by contrast, after the failure of the United Nations' COP25 in 2019, it is better for international society to support a more flexible and feasible approach, in which those larger emitters are available and willing to deal with warming problems through the 'fragmentation mode' rather than the multilateral cooperation as usual.

Keywords: International Cooperation, Global Warming, Paris Agreement, arger Emitting Countries, Multilateralism, Fragmentation Mode

INTRODUCTION

The possibility of international cooperation and the effectiveness of international organization have long stood as concerns for scholars in the field of international relations (IR). A great amount of existent literature is dedicated to the ways to realize cooperation between or among sovereign states, with neoliberal institutionalists preaching the utility of international institutions and regimes. Unfortunately, the establishment of institutions or regimes does not necessarily equal to or guarantee that the goals will be achieved.¹ Rather, as the case of the World Trade Organization (WTO) suggests, while it has inched towards multilateral trade and economic liberalization, trade disputes remain abundant while various direct or hidden non-tariff barriers continue to be adopted by members.²

This article focuses on the issue of decline of

multilateralism in international cooperation, or in other words, the partial or total decay (or replacement) of anticipated functions in multilateral cooperation internationally. While a number of factors may give rise to functional loss, what is more important is the defunct effect. When this effect is obvious, the effectiveness of related issue specific cooperation comes into doubt and becomes literally dead. For example, in terms of the current cooperation on global warming governance, while multilateral cooperation was established upon the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol (KP) and the Paris Agreement (PA) frameworks, this multilateral mechanism actually runs into problems or stagnation.³ In contrast, joint measures towards the reduction of greenhouse gases undertaken by specific countries solely or as a group seemed to yield better outcome. On the other hand, the historical record has confirmed governance based on

¹ Abram Chayes and Antonia Handler Chayes, "On Compliance," *International Organization*, Vol. 47, No. 2 (Spring 1993): 175-176.

² Kent Jones, *The Doha Blues: Institutional Crisis and Reform in the WTO* (Oxford: Oxford University Press, 2010): 3-6.

³ Amanda Rosen, "The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change," *Politics & Policy*, Vol. 43, No. 1 (February 2015): 30-58.

multilateralism as incapable of realizing the reduction or management of greenhouse gases based on the original institutional design. Oftentimes, other supportive institutions or measures, including pressure from civil society, must be in place concurrently to facilitate active action, even though the outcome may still be unsatisfactory.

In concrete terms, the decline of multilateral cooperation describes, in some sense, the decaying of international institutions and regimes on cooperation over the governance of global warming. More specifically, a small number of great powers almost dominate the current multilateral institutions.⁴ These countries not only influence the progress of related climate change negotiations, but also – directly and indirectly – embed self-favorable norms and rules into multilateral documents governing global warming. Such behaviors cause other countries involved in the process to possess merely equal status from a legal standpoint (*de jure*) but enjoy far less influence than the great powers. This article holds the view that since the 1990s, while the deeply grounded reason for the decline of international cooperation lies in the chronic ineffectiveness of governance on global warming, the essential reason for the acceleration of the decline phenomenon lies in the formation of bilateral deals. In other words, as large carbon emission states increasingly dominate the discourse on the negotiation process in the annual UNFCCC Conference of the Parties (COP), they also prefer to organize bilateral (or limited multilateral) cooperation outside the regular multilateral governance on global warming.

By analyzing three cases of bilateral global warming agreements signed by large carbon emission states, this article argues that the governing mechanism on global warming has already hollowed out, as the fragmentation mode seems to be more effective in terms of governance. In the future, large carbon emission states will very likely bring parts of the fragmentation mode to the COP negotiating table and eventually weaken existing multilateral arrangements. This article proceeds in five sections besides the introduction mentioned above. Part II reflects upon the various views on

multilateral international cooperation. Part III explains the reasons for the gradual adoption of the non-multilateral fragmentation mode for large carbon emission states. Part IV assesses the problems of PA based on its short and long-term outcome. Part V looks at three cases of fragmentation that support the critique against multilateralism. In the last section, this article will conclude that while multilateralism seems to be a popular form of international cooperation, in terms of governance on global warming, it is not necessarily the best strategy. In contrast, if large carbon emission states adopt the fragmentation mode, even though such move may hasten the demise of multilateral governance, the resulting efficiency may be much higher.

MULTILATERALISM IN INTERNATIONAL COOPERATION

While multilateralism is a commonly accepted form of international cooperation,⁵ its actual functioning often ends up in dilemma. Noting the example of the ‘convention-protocol mode’ for governance on global warming, since the UNFCCC opened for signature in 1992, in the span of 25 years (until the end of 2017), the convention took two years (1992-1994) to enter into force; three years before a relatively concrete reduction institution – the KP – was introduced; and another eight years before Russia’s entry fulfilled the legal requirement for bringing the KP officially into force. Yet the emission reduction period agreed upon by signatories was merely for four years (2008-2012). In other words, the current institution for governing global warming invested more than half of its time in existence on the task of soliciting the participation of most sovereign states, or inducing participating states to carry out their *de jure* obligation for emission reduction under the KP.⁶ It is easy to note that, however, the described shortcoming was only a

⁴ Kathryn Hochstetler and Manjana Milkoreit, “Emerging Powers in the Climate Negotiations: Shifting Identity Conceptions,” *Political Research Quarterly*, Vol. 67, No. 1 (March 2014): 224-235.

⁵ Giovanni Maggi, “The Role of Multilateral Institutions in International Trade Cooperation,” *The American Economic Review*, Vol. 89, No. 1 (Mar. 1999): 190-214.

⁶ Actually, the commitments made under the KP expire at the end of 2012, but emissions are rising faster than ever. Furthermore, the KP’s institutional design were too massively bureaucratic and had too many loopholes. Please see: Jan Corfee-Morlot and Niklas Höhne, “Climate Change: Long-term Targets and Short-term Commitments,” *Global Environmental Change*, Vol. 13, No. 4 (December 2003): 277-293.

tip of the iceberg of problems. If one recalls the US congress' refusal to ratify the KP in 1998 and Canada's decision to leave the KP under Stephen Harper and the Conservative government in 2012, it is hard to argue that multilateralism led to successful cooperation for governing global warming.

In academic terms, multilateralism refers to collective interaction by sovereign states concerning a specific issue. If such interaction becomes institutionalized, it takes on institutional form – the condition of most international cooperation in the postwar period, including the North Atlantic Treaty Organization (NATO), the United Nations (UN) and the World Health Organization (WHO) among others.⁷ For John Ruggie, multilateralism refers to the institutional working of three or more countries that seek to resolve their common problem through the coordination and institutionalization of the norms of behavior.⁸ As the number of participants in a multilateral institution is usually more than just a few and saddle different regions, multilateral cooperation demonstrates clear universal membership, which provides it with high representation and legitimacy to regulate state behavior in international society. Yet multilateralism does not necessarily have to be intergovernmental; non-state actors (such as various NGOs) may also establish their relations based on a multilateral mode. As Robert Keohane point out, multilateralism describes a way for three or more actors to coordinate over a common issue and is not necessarily conflict free or equal to peace.⁹

In fact, a dominant characteristic of

multilateralism is the pursuit for generalized principles of conduct. When sovereign states agree to adopt a multilateral approach towards the resolution of a specific or common challenge, it also means that they are willing to conform to the same norms for action (which neo-liberal institutionalists refer to as “institution”). One should not underestimate the importance of the generalized principles of conduct, as it reflects the non-different nature for cooperation. Since multilateral cooperation expects sovereign states to adopt convergent actions, the relationship must consist of two key principles: (1) all participating states must recognize the indivisibility of certain issues; and (2) noting the compliance of member states on specific obligations, the gain of diffuse reciprocity may be expected.¹⁰

As such, actors that participate in multilateral action are those that cannot achieve a certain goal or resolve a certain issue independently. Hence, such actors choose to act together with other actors in a similar situation, which marks the inseparable nature of the action. Indivisibility is the precondition for diffuse reciprocity. It is clear that multilateral cooperation serves a utilitarian function; it is a way for states to achieve their goals or fulfill their interests. If the efficiency of such an approach does not meet expectations, or if states discover new approaches that may be better in meeting goals and expectations, multilateralism begins to be declined or even replaced.

It is worth noting that when an actor seeks to gain through multilateral cooperation, costs are incurred at the same time. Such cost, in the case of the state, usually refers to the transfer of sovereignty in part. In the trade-off process, each participating actor harbors various rational calculations, which revolves around the desire to exchange less sovereignty for more interests through cooperation. Correspondingly, the level of state participation or compliance in multilateral cooperation will not remain stable; actions adjust and respond to the level of gain the state receives through the multilateral framework. Of course, when a multilateral mode boasts a well-designed institution, especially one that facilitates actors to fulfill their obligations,¹¹ the motivation for non-compliance

⁷ David Singer, “Capital Rules: The Domestic Politics of International Regulatory Harmonization,” *International Organization*, Vol. 58, No. 3 (Summer 2004): 531-565; Barbara Koremenos, Charles Lipson and Duncan Snidal, “The Rational Design of International Institutions,” *International Organization*, Vol. 55, No. 4 (Autumn 2001): 761-799; Lisa Blaydes, “Rewarding Impatience: A Bargaining and Enforcement Model of OPEC,” *International Organization*, Vol.58, No. 2 (Spring 2004): 213-237.

⁸ John Ruggie, “Multilateralism: The Anatomy of an Institution,” *International Organization*, Vol. 46, No. 3 (Summer 1992): 568.

⁹ It is a point often neglected or misunderstood. See: Robert Keohane, “Multilateralism: an Agenda for Research,” *International Journal*, Vol. 45, No. 4 (Autumn, 1990): 731.

¹⁰Ruggie, *op. cit.*: 574.

¹¹Kenneth Abbott, Robert Keohane, Andrew Moravcsik, Anne-Marie Slaughter, and Duncan Snidal, “The Concept of Legalization,” *International*

will be lower. Nonetheless, the performance of a multilateral mode is strongly related with its utility.

In short, multilateralism is merely a choice in international cooperation. It is neither assurance for efficient cooperation nor guarantee for a higher will to comply among participating states. Yet following the growing discourse on global governance after 1995, much academic discussions began to center on the adoption of multilateral governance for certain global issues and emphasis on the resolution of issues through collective action.¹² The overarching belief is that good governance can be achieved through broad participation and multilateral coordination. The following section takes issue with such belief.

THE DECAY OF MULTILATERALISM AND THE RISE OF FRAGMENTATION

In an age when scientific evidences on the irreversible impact of global warming consistently emerge,¹³ the international community continues to focus on the issue of putting an effective lid on the annual rise of the global median temperature. With the collapse of negotiations over the Copenhagen Accord in the 15th Conference of the Parties (COP15), the international community could only adopt the second best option. In 2012, through the Doha Amendment to the KP, the negotiating states agreed to extend the KP to the end of 2020 (commencing from January 1, 2013), establishing the so called “second commitment period.”¹⁴

In 2014, at the 20th Conference of the Parties

(COP20), participating states passed the Lima Call for Climate Action and sought to mitigate the polarized standpoints between the Global North and the Global South.¹⁵ States were requested to produce their own carbon emission plans before the end of 2015 and release related information on the UNFCCC website for public reference. The released information served as the basis for negotiations at the 21st Conference of the Parties (COP21) in Paris in 2015. The PA, passed in COP21 in 2015, subsequently succeeded KP as the key document for governing global warming. It is worth noting, however, that before the opening of COP21, fragmentation began to appear among states. Compared with competition among negotiating parties under a multilateral framework, large carbon emission states began to team up or enter into bilateral cooperation among themselves.

In a sense, the so called ‘fragmentation mode’ can be seen as a response towards the inefficiency of multilateralism. Despite the fact that climate change policies are inevitably limited by the geographic conditions and domestic industrial structure of a state – which makes the replication of policies among states extremely difficult – the non-different nature of obligations under a multilateral framework can be expected to clash with certain state interests. Under such condition, small states cannot but find the task of challenging an international institution difficult and comply with established obligations, while large states retain the flexibility of selective compliance or rejection. In the case of climate change (which is relatively indisputable in comparison with issues such as financial crisis or forced migration), not all sovereign states really share the same vulnerability. It follows that the non-different characteristic emphasized in multilateralism must meet the challenge that interests are not lost when some states do not comply. Gains may actually increase in some instances for non-complying states while complying states may not receive the expected gains from diffuse reciprocity. Once such a situation appears, inefficiency ensues. The decay of multilateralism is inevitable if non-compliers that do not incur losses are numbered while compliers that are not rewarded with diffuse

Organization, Vol.54, No.3 (Summer 2000): 401-402.

¹² For instance, James Rosenau and Ernst-Otto Czempiel, *Governance without Government: Order and Change in World Politics* (Cambridge: Cambridge University Press, 1992).

¹³ IPCC, *Special Report: Global Warming of 1.5 °C*, available at: <https://unfccc.int/news/unfccc-secretariat-welcomes-ippc-s-global-warming-of-15degc-report>; Susan Solomon, et al, “Irreversible Climate Change due to Carbon Dioxide Emissions,” *Proceedings of the National Academy of Sciences*, Vol. 106, No.6 (2009): 1704-1709; J. B. Smith et al, “Assessing Dangerous Climate Change through an Update of the Intergovernmental Panel on Climate Change (IPCC) Reasons for Concern,” *Proceedings of the National Academy of Sciences*, Vol. 106, No.11 (2009): 4133-4137.

¹⁴ Please see: http://unfccc.int/kyoto_protocol/items/2830.php

¹⁵ Curtis Doebbler, “The Lima Climate Summit: A Failure in All but Name,” *Counterpunch* (Dec. 22, 2014), available at: <http://www.counterpunch.org/2014/12/22/the-lima-climate-summit-a-failure-in-all-but-name/>

reciprocity are abundant.

Regarding the phenomenon mentioned above, previous research suggests that international cooperation on the governance of global warming is only effective under three conditions.¹⁶ First, the number of participating states must be maximized in order to include the key contributors of global greenhouse emission. Second, multilateral cooperation for the governance of global warming must have a clear set of institution, especially one with a design that can facilitate the real reduction of carbon emission among participating states.¹⁷ Third, the compliance rate for the obligations must not be too low, or in other words, there must be an abundant number of states that will achieve their established goal for emission reduction.

Noting the conditions, this article argues that some of the views need to be clarified or criticized. Foremost is the myth of multilateralism that the number of participating states must be maximized. The current record suggests that even with a large number of states participating in the governance of global warming (such as the number of signatories for the PA), if the double-trigger mechanism cannot be satisfied, not only can the PA not become legally effective, targets for the reduction in carbon emission would likely remain distant as well. The experience of KP suggests that without the participation of Russia – a large emission state – the time needed to bring the protocol into power must be delayed, even though the number of states that signed on to the protocol had exceeded 55 before the inclusion of Russia. Moreover, even if a group of small carbon emission states were to make diligent efforts towards the reduction of greenhouse gas, it would still accomplish far less than the total amount of reduction carried out by two or three large emission states. Therefore the governance of global warming should not neglect the important role of ‘powerful emitters’. While it is great to have an abundant number of participating states, yet without the cooperation of large emission states, multilateral cooperation

remains superficial.

Second, while institutional design is important, there is not only one design and multilateral cooperation is not a necessary condition. Increase in global carbon emission is merely the result; the key to successful governance lies not in the result but in its cause. It is inevitable for states with different industrial structures to harbor differences – some states pay a relatively small cost for reducing carbon emission while other states pay a much higher cost. The non-different principle under traditional multilateralism invariably demonstrates itself as in constant conflict with state interests. In contrast, if states can establish emission reduction strategies that correspond to their respective abilities and interests independently or through bilateral deals, and refer to member actions as signals for increasing or decreasing resources and efforts towards carbon reduction, such may be a more pragmatic and probable approach towards governing global warming.

Third, in terms of the issue of low compliance rate, one can reasonably argue that it is a myth sometimes. However superficial, if a treaty state can follow through with the obligations deemed in the content of the agreement, it can be considered as a complying state. The greater the number of complying states, the stronger the support the specific agreement receives. Yet at the same time, states outside the treaty may not be completely impotent when it comes to fulfilling treaty obligations. For example, Taiwan (also called Republic of China) – an actor that frequently sits out on international treaties – often times carry out the obligations laid out in international treaties. In such case, while Taiwan is discounted from the number of states that comply with treaty obligations, its behavior in fact contributes to achieving the goals set out in international treaties. Such logic suggests that states that have not signed or have signed but have yet to ratify the PA cannot be considered as states that will not comply with the demands for emission reduction. If great carbon emission states are among the group of non-compliers, their will and emission reduction level would certainly have an effect on the governance of global warming, while the compliance rate remain ignorant of such phenomenon. As some existing literature points out, if the established content of treaty obligations is relatively loose or minimal in the first place, to the extent that participating states can effortlessly fulfill the obligations, the

¹⁶ Scott Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making* (Oxford: Oxford University Press, 2003).

¹⁷ Sikina Jinnah, “Climate Change Bandwagoning: The Impacts of Strategic Linkages on Regime Design, Maintenance, and Death,” *Global Environmental Politics*, Vol. 11, No. 3 (August 2011): 1-9.

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efficiency of cooperation will not actually increase.

In contrast with multilateralism, the logic behind the fragmentation mode is that the number of signatories to legal documents concerning emission reduction does not matter; the real emphasis is whether great emission states with bargaining power are willing to cut down on their volume of emission under certain conditions. As the PA also adopts the double-trigger mechanism (more than 55 of the signatories should be members of the UNFCCC, and the total volume of carbon emission should at least constitute 55% of the total volume of emission by Annex 1 countries in 1990), even though the agreement came into being in the end of 2015, it did not fully come into force until November 4, 2016. It is worth noting that the total volume of emission of China (29%), the US (15%) and India (7.1%) is not far off from the 55% mentioned above. Therefore, a quite reasonable hypothesis is that if two of the three big emission states are willing to lower their emission, even if the method for their reduction is different from the 'convention-protocol mode' based on multilateralism, its governing efficiency would still be higher or no less effective than the KP as well as the PA.

In short, logically, the fragmentation mode seems to be more effective than multilateralism and better facilitates the process for cooperation among states. In fact, numerous studies on international cooperation have concluded that cooperation is prone to fail when a large number of states participate.¹⁸ In the next section, this article examines the short and long-term efficiency problems of multilateral cooperation under the institutional design of the PA. Section five looks at actual examples of the fragmentation mode that support this article's criticism against multilateralism.

ANALYZING THE EFFICIENCY OF MULTILATERALISM

¹⁸ William Boyd, "Climate Change, Fragmentation, and the Challenges of Global Environmental Law: Elements of a Post-Copenhagen Assemblage," *University of Pennsylvania Journal of International Law*, Vol. 32, No. 2 (Fall 2010): 457-550. In this article, Boyd argues that the diversity of normative orders becomes normal in the age of globalization. Given this, it is necessary to apply 'fragmentation' into specialized issue areas like warming governance based on legal pluralism.

Short-Term Efficiency

We can take the PA as an example of multilateralism and examine its short-term efficiency. The promise for emission reduction and its potential fulfillment under the framework of the PA are the main aspects for scrutiny. Noting the KP, which was ratified by most states (191 states plus the European Union) before the PA came into being, we note that under multilateralism, merely 36 states (Canada withdrew in 2011) are restrained by the demand for emission reduction under the convention-protocol mode, with their total volume of emission making up less than 20% of global carbon emission. Clearly, the KP boasts limited effectiveness, not to mention that no every country fulfilled its obligation, which further undermines the effectiveness of governance. In contrast, the PA received more participants and at COP21, 195 countries granted their full support for the agreement. On March 1, 2016, based on clause 3 of the PA, 165 countries (including the US, China and other great emission states) paid the Nationally Determined Contributions (NDCs). Nonetheless, as the PA did not stipulate the NDCs as a legal obligation for member states, hence even if states do not propose their NDCs or fall short of the targets for emission reduction, they remain guilty free under international environmental regulations. Although the PA demands each member state to make transparent its NDC status while adopting a clear and accountable institution to track the respective emission reduction performance of states, when states fail to fulfill their NDC requirement, the PA surprisingly does not give out any tangible punishments. In fact, according to clause 15, item one of the PA, global multilateral governance should establish mechanisms that facilitate the execution of the agreement and compliance. Meanwhile, however, item two of the same clause notes that such design should mainly consist of experts and encourage the adoption of clear, non-confrontational and punishment averse actions.

Since NDCs are not considered as a mandatory obligation under the PA, unless member states enforce strict self-demand, we can expect the level of actual compliance to be much lower than what is promised. Moreover, since Canada pulled out from multilateral cooperation in the KP period, it is difficult for us to view with optimism that many other countries will openly criticize or sanction, or nose into the business of states that did not fulfill their promise or exit

halfway. Conversely, some states found a gap between multilateralism and state interests after the PA came into force, imitated the example of Canada with the KP, and pulled out from the PA (the US under the Donald Trump administration is an example). It is apparent that if the multilateral mode of cooperation cannot provide a regulatory design that enforces membership compliance, international cooperation stands in danger of becoming a formality with poor efficiency, making ineffective governance inevitable. It is worth noting that the negative feedback such development may cause – states that chose to fulfill their obligations under the multilateral framework may lose confidence and in turn choose to terminate their obligations or leave multilateral cooperation altogether. Regardless of the outcome, we can expect the hollowing out of multilateralism.

Long-Term Efficiency

Even though the PA came into force in November 2016, its condition was similar to the UNFCCC, as a considerable portion of the content, including obligations and detailed regulations, awaited further talks. Detailed regulations were expected to be finalized at COP25 in 2019 and enforced as soon as possible. In this regard, negotiations at COP25 should lead to the introduction of a concrete set of norms that target global warming, as well as the delineation of the scope of NDC. It is clear that the long-term efficiency of the PA hinges on two important questions: (1) would the execution of NDCs by respective states strengthen their common desire to achieve the long-term goals of the PA? (2) Over time, can the PA consolidate the membership promise to reduce greenhouse gas while maintaining continued compliance among countries that take part in the multilateral mode?

When the PA was first adopted, it was clear that the agreement was tasked with an urgency to resolve a gap. In comparison with the pre-industrial age, a gap exists between “the total effect of the signatories’ annual reduction in greenhouse emission before 2020” and “maintenance of the average global temperature rise within 2 degrees Celsius and cap the rise in temperature to under 1.5 degrees Celsius.” Is it possible to mitigate or at least make non-conflictual the two points?¹⁹ In the short term, the PA seems to have only minimal success in

closing the gap between the two. Is it possible for the PA to close the gap over time?

In terms of institution, item 2 of article 4 contains the main design for safeguarding the long-term efficiency of the PA.²⁰ Here, it is important to note that “successive nationally determined contributions” suggests that future NDCs will be higher than the current value. The PA supports such institutional design. First, by obligation, the membership party must provide a national report that contains information on greenhouse emission on a regular basis, as a window for the international community to see tangible actions taken by the party to fulfill its NDC demand.²¹ Second, the party is required to submit its NDCs to the secretariat according to item 9 of article 4.²² Third, the enforcement progress of the PA is reflected upon on a regular basis in order to evaluate the agreement against its central goal and long-term targets. The task of evaluation should be carried out in a comprehensive and facilitating manner that notes the measures taken for reduction, mitigation, execution and support, while also taking equality and scientific development and application into concern.

The foregoing points suggest that the PA indeed contains regulatory design intended to strengthen or realize its long-term efficiency. However, we are still challenged as to whether such institutional design is sufficient for warranting a positive outcome for the governance of global warming in the end, and whether more states are encouraged to join hands on the issue of reducing emission. Such doubt comes from two reasonable anxieties on the PA. Foremost is the concern that the content of the NDCs is usually wanting in many respects. For example, the PA contains a number

²⁰ “Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve; Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.”

²¹ Daniel Bodansky, “The Legal Character of the Paris Agreement,” *Review of European, Comparative, and International Environmental Law, Forthcoming*, Vol. 25, No. 2 (March, 2016):142-150.

²² “Each Party shall communicate a nationally determined contribution every five years in accordance with decision 1/CP.21 and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement and be informed by the outcomes of the global stock take referred to in Article 14.”

¹⁹ Decision 1/CP.21, preamble

of general targets such as item 1 of article 4, which states that “... Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”

Accordingly, item 3 of article 4 notes that “each Party’s successive nationally determined contribution will represent a progression beyond the Party’s then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.” Furthermore, according to item 4 of article 4, developed parties with higher economic standing should continue to play a leading role by “undertaking economy-wide absolute emission reduction targets” and “providing assistance to developing parties... in recognition that strengthening the support for developing parties can increase their capability to act.” Unfortunately, promises were almost always decided by the parties, which undermined the PA’s potential to maintain the long-term average temperature of Earth to no more than two degrees Celsius. If so, even if individual state compliance is good, in the long run, the key concerns of the PA will remain.

Yet another noteworthy characteristic is that the PA lacks a mechanism that enforces the obligation for cooperation. Such condition may cause multilateral cooperation to be mired in uncertainty, as member state perception towards the realization of promises may be weak – a malaise that results from the absence of punishment in the face of non-compliance. The importance of an execution mechanism is to support and facilitate state compliance while increasing the chances for realizing the agreement. Currently, however, such design is wanting from the PA, which effectively renders the agreement into a dysfunctional consensus that backs away from taking action against non-compliance. Besides the demand for transparency, there are no other restraining or enforcement measures. As a result, parties may talk through their hat and propose NDCs that do

not correspond with their capability, or completely ignore the question of whether their proposal can be achieved in the future or not. In such state, NDCs become merely a way for parties to express good will. Whether the proposals can be carried out accordingly is a separate issue.

In the absence of an execution mechanism, the long-term efficiency of the PA remains highly unstable and contradictory with optimistic assessment. Even if we assume that all parties were keen on resolving the issue of global warming and fulfilling their promises on reducing emissions, the fact that other parties could not be counted on to reciprocate causes most states to lack the will or reject expending real efforts towards cutting down emissions – a typical prisoner’s dilemma. In theory, a positive outcome (such as the expansion of reciprocity) may come about if parties to the PA all uphold their obligations. However, in reality, little to no parties would opt to uphold their obligations. As such, despite much optimism towards NDCs, in terms of long-term efficiency, the authors of the present discussion remain reserved towards multilateral cooperation. Nonetheless, it is worth noting that the absence of an execution mechanism seems to be a deliberate institutional design. The PA must not be strictly binding in order to appeal to states that do not wish to be punished or targeted by sanctions. The irony is not lost – in order to prop up a superficial multilateral architecture for governing global warming, the international community quietly accepted the degeneration of the PA into an empty environmental convention that merely pays lip service to combating extreme climate.

CASE STUDIES

Before discussing the case studies, it is important to point out that the PA has already exposed the importance of countries emitting the most carbon dioxide. For example, the US is currently the second largest emitting state in the world and a dominant power in the global political economy. As such, the US is more than just a member party that makes NDC proposals; its decision may effectively influence other parties and their actions towards emission reduction.²³ Past experiences and the example of

²³Douglas Halsey, David Strelzyk-Herzog, Trisha Grant, “The Paris Agreement: The Impact on the United States and the EU,” *White and Case*, (January 2016), available at: <http://www.whitecase.com/sites/whitecase/files/files/download/publications/the->

the KP (which was not ratified by the US Congress) show that if countries like the US do not participate in international norms on governing global warming and make genuine efforts towards fulfilling the targets for emission reduction, not only would the efficiency of the standing institution suffer greatly, other participating states would also begin to have doubts towards the institution or decrease their will towards compliance.²⁴ In contrast, while the fragmentation mode does not include many states, the fact that the participating members harbor carbon emission volumes that have a direct and heavy impact on the governance of global warming, means that cooperation under the fragmentation would be faster and more efficient than multilateralism. Furthermore, the fragmentation mode also satisfies the interests of the great emission states and provides higher incentives than the multilateral mode for states to comply with the obligations.

China-US Cooperation

In the past, under the UNFCCC framework, multilateral cooperation was not only unsuccessful in demanding annex one countries such as China to reduce greenhouse gases, its efforts to put the US (an annex one country) in line – to shoulder clear responsibilities for reducing emissions – also failed in vain. The outcome suggests that both China and the US, in terms of perception and behavior, did not meaningfully participate in multilateral governance under the convention-protocol mode. Therefore, while both participated in multilateral cooperation, the goal of reducing greenhouse gases was not actually realized, which in turn makes the multilateral institution seem redundant.²⁵

It is worth noting that in recent years, the issue of smog has severely damaged public health in China. The cost of the chronic pursuit for economic development has caught up and is

now challenging the communist party regime under Xi Jinping and Li Keqiang. Such development has led the governance of air pollution to become a very important topic in China's state policy discussions in recent years.²⁶ Nonetheless, a number of special measures are temporary and incapable of resolving the issue of air pollution. Beijing understands that unless adjustments are made to the current economic development model and energy consumption structure, problems such as high carbon emission and high concentration of PM 2.5 will see limited improvement. In terms of managing the challenge of air pollution, Beijing has two concerns. On the international level, not only does Beijing need to face up to concerns and criticisms against emission reduction from the international community, it is also deemed with the task of voicing the interest of developing states in the South towards economic growth. Domestically, both the central and local government need to confront a growing number of frustrated individuals.²⁷ When the documentary *Under the Dome* reveals how PM 2.5 produced by public transit, industrial activities and electricity generation threaten public health, Beijing can no longer remain passive on the issue of improving air quality.²⁸ Yet when Beijing decides to adjust its energy policy, its economic development would surely suffer. As a result, on November 12, 2014, Beijing and the US made the Joint Announcement on Climate Change.²⁹ By inviting pressure from the US, Beijing hoped to push forward domestic reforms on transforming the energy structure, while at the same time, it also sought the transfer of nuclear related technology and capital from the US – a strategy that seeks to take everything. In short, in order to deal with the problems of global warming and air pollution, China chose the fragmentation mode over the convention-protocol mode, with cooperation extending to this day, even when China and the US locked heads on trade issues

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²⁴ Luke Kemp, "Bypassing the 'Ratification Straitjacket': Reviewing US Legal Participation in a Climate Agreement," *Climate Policy*, Vol. 16, No. 8 (July 2015): 1011-1028. However, some scholars have a different viewpoint, for instance: Brian Deese, "Paris Isn't Burning: Why the Climate Agreement Will Survive Trump," *Foreign Affairs*, Vol. 96, No. 4 (July/August 2017): 86 and 90.

²⁵ David Victor, *Global Warming Gridlock* (Cambridge: Cambridge University Press, 2011).

²⁶ Genia Kostka and Chunman Zhang, "Tightening the Grip: Environmental Governance under Xi Jinping," *Environmental Politics*, Vol. 27, No. 5 (August 2018): 769-781.

²⁷ *Ibid.*: 772-773.

²⁸ Jane Golley, "China's Environmental Challenges: Under the Dome with No Way Out?" *Asia-Pacific Journal*, Vol. 14, No. 22 (November 15, 2016): 1-10.

²⁹ Please see: *U.S.-China Joint Announcement on Climate Change*, available at: <https://obamawhitehouse.archives.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>

in March 2018.

For the US, in contrast with international pressure, domestic politics remains the key variable that determines whether the US can realize regulations concerning the governance of global warming.³⁰ Considerations for state interests play an important role in the APEC summit in November 2014 (not the COP summit meeting in December), where the US and China agreed on the Joint Announcement on Climate Change. Noting the difference between negotiating with China alone and joint negotiation with other states at the same time, for Washington, using APEC as an interface to facilitate a consensus with China proved to be favorable. From Washington's point of view, the announcement can be seen as an executive agreement adopted by the president, which does not need to be ratified by the congress nor be bound by obligations under international law.³¹ High flexibility and low domestic political impact are the advantages of the executive agreement. Meanwhile, on the international level, the joint announcement serves as a future bargaining chip for the US to exploit in future COP meetings with other great emission states. More specifically, the Joint Announcement on Climate Change represents Washington's baseline for future negotiations under the convention-protocol mode. Suppose the international society demands the US to accept more concrete emission reduction obligations in the future, in response, the US may in turn demand the requesting states (especially other larger emission states such as India and Brazil) to commit to real promises similar to China. If the latter rejects, the US could then refer to its *fragmented cooperation* with China and ask for concessions, or defend its non-compliance with emission obligations based on the bilateral announcement.

India-US Cooperation

Without a doubt, the fragmented cooperation between China and the US in 2014 encouraged India – the third largest carbon emission states in the world – to follow suit. While India seems to be an attractive new emerging economy, it

has already paid the cost of development through the ever degrading domestic environment.³² Meanwhile, a large segment of the Indian population still continues to live without stable power supply, which makes the development of eco-friendly renewable energy crucial for India's long-term national development.³³ Nonetheless, the consequence of continued pursuit for economic growth puts the demand on India, in the short term, to rely on traditional coal generated electricity and fossil fuels with relatively high carbon emission.³⁴ Such reliance in turn challenges India with the question of how resources within its existing development structure can be used to tackle the issue of air pollution and respond to the international community's demand on emission reduction. According to a study released by the WHO in 2014, among the top twenty cities in the world that are most severely polluted, thirteen are in India, with New Delhi hosting air quality that is even worse than Beijing.³⁵ Moreover, according to a study report released by the World Bank in 2015, as the average temperature of India rises, its risk of exposure to heat waves and water shortage becomes bigger, while the regularity of seasonal wind and monsoon becomes unstable. The report warns the Indian government to raise precautions to prevent the risks of climate change, especially riots that may result from the shortage of water or food.³⁶

Besides pressure from environmental security, concurrently, India also confronts the crisis of energy shortage. For example, in the summer of 2012, massive energy shortage occurred in India – approximately 7 billion people did not have access to electricity due to technical problems

³⁰ Fred Krupp, "Trump and the Environment: What His Plans Would Do," *Foreign Affairs*, Vol. 96, No. 4 (July/August 2017): 73-82.

³¹ Catherine Amirfar and Ashika Singh, "The Trump Administration and the 'Unmaking' of International Agreements," *Harvard International Law Journal*, Vol. 59, No. 2 (Summer 2018): 443-459.

³² Krishan Pandeya and Harshil Rastogi, "Effect of Energy Consumption & Economic Growth on Environmental Degradation in India: A Time Series Modelling," *Energy Procedia*, Vol. 158 (February 2019): 4232-4237.

³³ Christine Shearer, Robert Fofrich, and Steven Davis, "Future CO2 Emissions and Electricity Generation from Proposed Coal-Fired Power Plants in India," *Earth's Future*, Vol. 5, No. 4 (April 2017): 408-416.

³⁴ *Ibid.*: 410.

³⁵ WHO *Global Urban Ambient Air Pollution Database (update 2016)*, available at: http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/

³⁶ Please see: World Bank, *Annual Report 2015*, available at: <https://www.worldbank.org/en/about/annual-report-2015>

with the northern power supply system.³⁷ If a similar situation reoccurs, both foreign and local business may lose interest in India's investment environment and damage the country's rate of growth and public confidence in the government in turn. Energy security is without a doubt the pressing issue for India right now. Noting the stated considerations, the Narendra Modi government commenced the plan to develop renewable energy, increased the level of carbon tax, and following the trail of China, carried out fragmented cooperation on climate change with the US. Currently, the US is committed to assist India in managing and monitoring the movement of air pollution, which provides India with data to establish regulations that directly target the goal of reducing the emission of harmful gases. In addition, the US will also make efforts to assist India in developing a more efficient market mechanism that is favorable towards climate cooling.³⁸

Based on objective conditions, India is a state that boasts the potential to develop renewable energy such as solar and wind power. However, successful application of related technologies requires capital investment and knowledge transfer from developed states. Without proper support, India will find the task of accomplishing the dual goal of reducing greenhouse emission and maintaining economic development immensely difficult. Noting the challenge, fragmented cooperation between the US and India is an economically efficient, rational choice that corresponds with both Washington and New Delhi's respective interests. Under the framework of the Partnership to Advance Clean Energy (PACE), the US and India reached a number of consensus concerning policy, technology and real emission reduction. PACE is mainly concerned with investment and cooperation on improving energy efficiency and air quality control.³⁹ Not

only does cooperation under PACE supplement investment on climate resilience and benefit the global expansion of US high-tech companies, in the process, India can also acquire the necessary technologies and assistance for governing global warming. In fact, after the announcement of PACE, in order to advance the progress of various cooperation, New Delhi and Washington further agreed on a five year memorandum on energy security and the development of clean energy. In April 2018, India and the US further signed the Energy Partnership Joint Statement.⁴⁰ India-US cooperation clearly demonstrates the high efficiency of the fragmentation mode.⁴¹

China-India Cooperation

In contrast with the two previous cases, China-India cooperation presents a unique form of the fragmentation mode. As both China and India are considered as developing states, both countries need the investment of advanced technologies and capital before the emission of greenhouse gases can be greatly lowered. Cooperation between China and India suggests that their common interest does not lie in technology or capital, which stands apart from the case of US-China and India-US cooperation.

China-India cooperation on governing global warming is closely related to changes in the environment. First, both China and India are in the list of UNFCCC Annex I countries in the first phase of the KP and are not strictly bound by obligations to reduce emissions. However, noting that the KP has been in effect for over a decade and both China and India have improved economically, while their income and carbon emission per capita still lag behind developed countries, it will be difficult for the international community to keep the two powers outside the obligation for emission reduction. Yet to demand both countries to accept the same responsibilities for emission reduction as developed states is also controversial in terms of equality and validity under the existing institutions. In such light, China and India face similar conditions on the issue of governing global warming. Besides the fact that both

³⁷ Helen Pidd, "India Blackouts Leave 700 Million without Power," *Guardian* (July 31, 2012), available at: <https://www.theguardian.com/world/2012/jul/31/india-blackout-electricity-power-cuts>

³⁸ USAID, *Brochure: Partnership to Advance Clean Energy-Deployment (PACE-D) Technical Assistance Program* (March 14, 2016), available at: <https://www.usaid.gov/sites/default/files/documents/1861/PACE-D-Brochure-Feb-2016-1.pdf>

³⁹ Please see: U.S.-India Energy & Climate, Environment, Science & Technology, and Health Cooperation, available at: <https://2009-2017.state.gov/r/pa/prs/ps/2015/09/247173.htm>

⁴⁰ India-US Strategy Energy Partnership Joint Statement, available at: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=178727>

⁴¹ Please see: "Geopolitics in a Fluid Matrix: Indo-Russian Energy Cooperation," available at: <https://www.epw.in/journal/2018/6/special-articles/indo%E2%80%9393russian-energy-cooperation.html>

China and India belong to the targeted group of great emission states, in terms of domestic politics and technology, both countries are face the nearly insurmountable challenge of achieving clear progress in reducing emissions in a short period of time.

Prior to the establishment of bilateral cooperation, for a long time, both China and India maintained a competitive relationship on the governance of global warming. In other words, while China and India may be developing states that share a similar position on global warming, both countries are also rivals on the global stage that compete over technological transfer and capital assistance.⁴² In many senses, traditional multilateral cooperation modes are not designed to resolve such problems, which leaves China and India in the state of persisting differences and conflict of interests.⁴³ In contrast, the Joint Statement on Climate Change, signed by Beijing and New Delhi in May 2015,⁴⁴ clearly and emphatically recognizes the challenge of climate change and its adverse effects as a common concern for two large emitters, and cooperation must be pursued on the foundation of sustainable development and South-South cooperation.

In the statement, China and India agree to:(1) further promote bilateral partnership on climate change and enhance the role of this partnership in the overall strategic cooperation partnership between the two governments;⁴⁵ (2) emphasize that the UNFCCC and KP are the most appropriate framework for international cooperation for addressing climate change, and reaffirm the principles of equity and common but differentiated responsibilities and call for the leadership of developed countries in reducing greenhouse gas emissions and providing finance, technology and capacity building

support to developing countries;⁴⁶ (3) advance the multilateral negotiations to achieve a comprehensive, balanced, equitable and effective agreement under the UNFCCC in 2015, with a view to ensuring the full, effective and sustained implementation of the UNFCCC; (4) reaffirm that the 2015 agreement shall be in full accordance with the principles, provisions and structure of the UNFCCC, in particular the principles of equity and common but differentiated responsibilities and respective capabilities, reflecting different historical responsibilities, development stages and national circumstances between developed and developing countries; (5) stress the equal importance and urgency of implementing the outcomes of the Bali Road Map in order to increase the pre-2020 ambition and build mutual trust amongst countries;⁴⁷ and (6) enhance high-level bilateral dialogue on domestic climate policies and multilateral negotiations and to further strengthen practical bilateral cooperation, including in areas of clean energy technologies, energy conservation, energy efficiency, renewable energy, sustainable transportation including electric vehicles, low-carbon urbanization and adaptation.⁴⁸

From the joint statement above, we can notice two phenomena. First, while China and India expressed their willingness to comply with multilateral arrangements such as the UNFCCC, KP and the PA, in reality, both countries repeatedly emphasized the principle of common but differentiated responsibilities, and how developed countries should have corresponding (or even higher) responsibilities and obligations. Second, China and India further incorporated Washington's expectations for energy efficiency into their partnership, which corresponded with plans to invest in renewable energy featured in documents on climate change cooperation signed between the US and China and the US and India. It is clear that while fragmented cooperation between China and India is not as concrete as similar cooperation between the US and China and the US and India, the three sets of cooperation mutually reinforce each other and have an effect on other large carbon

⁴² Christian Downie and Marc Williams, "After the Paris Agreement: What Role for the BRICS in Global Climate Governance?" *Global Policy*, Vol. 9, No. 3 (September 2018): 398-407.

⁴³ Ibid. and Leah Stokes, Amanda Giang, and Noelle Selin, "Splitting the South: China and India's Divergence in International Environmental Negotiations," *Global Environmental Politics*, Vol. 16, No. 4 (November 2016): 12-31.

⁴⁴ Please see: Joint Statement between the People's Republic of China and the Republic of India, available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t1265496.shtml

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Chandrashekar Dasgupta, "Here's Why the India, China Statement on Climate Change is a Big Deal," *WIRE* (May 17, 2015), available at: <https://thewire.in/diplomacy/heres-why-the-india-china-statement-on-climate-change-is-a-big-deal>

emission states.

CONCLUSION

Before the PA was adopted at COP21, the governance of global warming is centered on the convention-protocol mode based on multilateralism. The efficiency of such mode has proved itself to be less than ideal. In 2015, the international community finally reached a consensus on the adoption of the PA and discovered a flicker of hope for the governance for global warming in the post-Kyoto period. Yet an examination of the new multilateral agreement reveals two worrisome conditions. First, regarding institutional design, the NDC is an antithesis of multilateralism. Rather than describing NDCs as new bottom-up thinking on governing global warming, it is easier to admit that the NDC heralds the beginning of the decline of multilateralism. Second, NDCs did not resolve problems left by the KP but further complicated the original problem. More specifically, while states can suggest their respective proposals for emission reduction out of ambition, currently, the PA does not contain any clear clauses for checking state compliance nor corresponding measures for non-compliance.

If the PA is considered as a multilateral measure that saved the issue of governance on global warming, the agreement is a *superficial* success, as at least in form, it pulled together 196 countries that are willing to talk about cooperation against global warming under the multilateral framework of the UN. This article, however, takes issues with the claim that the PA has effectively slowed down the planet's rising temperature and is an effective international institution that deals with the reduction of greenhouse gases. In contrast, this article attempts to point out that in less than three years, bilateral cooperation under the fragmented mode – whether between the US and China, the US and India, or China and India – has demonstrated its influence on the governance of global warming. Compared with multilateral governance on global warming, cooperation based on the fragmented mode satisfies the interests of the great emitters and simplifies the negotiation process. In other words, the great carbon emission states do not have to take into account states whose position stands overly distant or whose industry structure seems to be a hard fit, while circumscribing moral reproach from other states at the same

time.

The basic problem under the current multilateralism for governing global warming is how participating states can divest part of their resources (manpower, technology and capital) towards the task of countering global warming, and how such cost can be compensated through multilateral institutions. The problem has never been effectively tackled since the introduction of KP, while “common but differentiated responsibilities” has been constantly used by specific countries as an excuse for avoiding obligations under the multilateral cooperation. As such, this article emphasizes fragmentation as an alternative mode of governance that is clearly more effective than multilateralism. Even though such mode is founded on the mutual recognition of respective capabilities and state interests and do not have a number of participants nor the support of international organizations, its emphasis on concrete policies that respond to the needs of the participating states, surprisingly, suggests a practical approach to confronting the problem of global warming.

Overall, this article argues that governance on global warming should focus on a limited number of states with relatively high emission and refrain from an all-inclusive approach that attempts to include every state in the world under a single convention or specific agreements. In reality, if the so called large emitters can achieve consensus and warrant that state interests would not be severely hurt in the reduction process, we can then anticipate improvement on the situation of global warming – multilateral cooperation is not necessarily a pre-condition. Conversely, if differences among the great emission states remain, or if the cost of compliance exceeds the expectations of the great emission states, even if an agreement on the governance of global warming is reached among 196 sovereign states (including the EU), real improvement would still be out of grasp. The KP is in fact an example of failure.⁴⁹ Therefore, at the end of the first phase of the KP, the total emission of greenhouse gases in the world actually exceeded the level of emission in 1990 by a margin of 50%, or to put shortly, emission increased rather than

⁴⁹ Christopher Napoli, "Understanding Kyoto's Failure," *SAIS Review of International Affairs*, Vol. 32, No. 2 (Fall 2012): 183-196.

decreased.⁵⁰ It is clear that without an effective way to deal with those large emitters, governance on global warming is set to fail. Give this, international cooperation on global warming should focus on the issue of institutional design that stimulates the interest of great emission states to participate while achieving the reduction of greenhouse gases. Through an examination of three case studies, this article concludes that the fragmentation mode provides great emission states with similar interests or those with an interest to cooperate with a way to tailor the cooperation institution to their respective interest and amend the various shortcomings of traditional multilateralism.

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