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## NOTES & COMMENTS

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# Common and Symmetrical Responsibility in Climate Change: A Bridging Mechanism for Adaptation and Mitigation

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*In order to address climate change, the international community established a regulatory framework in addition to adaptation and mitigation strategies being at its core, and adopted “common, but differentiated responsibility” as the fundamental principle behind the international climate change regime. However, the climate change regime has reached an impasse in recent years. This paper suggests that “common and symmetrical responsibility” should become the central organizing principle of the future climate regime in order to resolve disagreements among countries and encourage the initiative by the international community. This paper not only provides an analysis of the “bridging mechanism for adaptation and mitigation,” based primarily on the allocation of quantified emissions, limitation and reduction commitments and the sharing of multilateral climate funds, but also discusses the “cut-or-fund” scheme and “cut-and-fund” scheme in developed and developing States, respectively under this mechanism.*

### Keywords

Climate Change, Bridging Mechanism, Mitigation, Adaptation, CBDR, Symmetrical Responsibility

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## 1. Introduction

The average temperature of the globe was increasing 0.85°C over the period 1880 to 2012.<sup>1</sup> Such global climate change, mainly characterized by climate warming, has resulted in increasing climate incidence and extreme weather conditions.<sup>2</sup> It is generally accepted in the scientific community that human influence is the dominant cause of the observed warming.<sup>3</sup> The increase in the atmospheric concentration of CO<sub>2</sub> since 1750 is the largest contributing factor to total radiative forcing, which, in turn, is the major driver of climate change.<sup>4</sup>

To meet the climate change, the UN adopted the Framework Convention on Climate Change (“UNFCCC”) in 1992 whose primary objective is to “stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”<sup>5</sup> At present, mitigation and adaptation strategies developed by the UNFCCC have provided major pathways to an effective climate change response. In the context of climate change, the UN defines ‘mitigation’ as a human intervention to reduce the sources or enhance the sinks of greenhouse gases, while ‘adaptation’ is the process of adjustment to actual or expected climate effects in order to either lessen or avoid harm, or exploit beneficial opportunities.<sup>6</sup>

In addition to the basic strategies mentioned above, in order to meet the demands of developing countries considering the remarkable difference in the capabilities and historical contribution to the global warming between developed and developing countries, the UNFCCC established in Article XI the multilateral financing mechanism, which addresses the demands of developing countries.<sup>7</sup> In

<sup>1</sup> IPCC, *Future Pathways for Adaption, Mitigation and Sustainable Development*, in *Climate Change 2014: Synthesis Report*, at 76, available at <http://ar5-syr.ipcc.ch> (last visited on Apr. 8, 2016).

<sup>2</sup> IPCC, *Summary for Policymakers 1: Observed Changes and their Causes*, in *Climate Change 2014: Synthesis Report*, at 7, available at <http://ar5-syr.ipcc.ch> (last visited on Apr. 8, 2016).

<sup>3</sup> IPCC, *Observed Changes and their Causes*, in *Climate Change 2014: Synthesis Report*, at 40, available at <http://ar5-syr.ipcc.ch> (last visited on Apr. 8, 2016).

<sup>4</sup> *Id.* at 44.

<sup>5</sup> UNFCCC art. 2.

<sup>6</sup> IPCC, *Observed Impacts, Vulnerability, and Adaptation in a Complex and Changing World*, in *Climate Change 2014: Impacts, Adaptation and Vulnerability*, at 5, available at [http://ipcc-wg2.gov/AR5/images/uploads/WG2AR5\\_SPM\\_FINAL.pdf](http://ipcc-wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf); *Summary for Policymakers 2: Approaches to Climate Change Mitigation*, in *Climate Change 2014: Mitigation of Climate Change*, at 4, available at [http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc\\_wg3\\_ar5\\_summary-for-policymakers.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf) (all last visited on Apr. 8, 2016).

<sup>7</sup> UNFCCC art. 11.

essence, the financing mechanism is regulating fair resource allocation which will be ensuring universal participation in climate regime and ultimately achieving climate justice.<sup>8</sup>

To share the climate responsibility and benefits reasonably, the UNFCCC adopted the principle of “common but differentiated responsibility” (“CBDR”). First raised in the Rio Declaration on Environment and Development in 1992, CBDR is a fundamental principle of not only the UNFCCC, but also the international climate change regime as a whole.<sup>9</sup> Under the principle of CBDR, the UNFCCC divided the signatory countries into two groups: developed countries (Annex I Parties) and developing countries (non-Annex I Parties) taking into account their common, but differentiated climate responsibilities.<sup>10</sup> Although CBDR has been a widely accepted principle, it has been increasingly challenged by the changing world economic structure and evolving practice of climate regime in recent years.

As the Kyoto Protocol system has reached an impasse, the global community initiated the new round of negotiations which finally adopted the Paris Agreement in December, 2015 by more than 190 countries. The Paris Agreement would be a steppingstone for overcoming climate dilemma. Although it does not have any direct reference to historical responsibilities or to ‘Annex’ and ‘non-Annex’ countries, differentiation of developed and developing countries is discernable in all the elements of the Agreement in such as mitigation, adaptation, finance, technology, capacity building and transparency.<sup>11</sup> The Paris Agreement provides for an “enhanced transparency framework” and a “mechanism to facilitate implementation and compliance.” Developing countries, however, are to put forward their proposed greenhouse gas (“GHG”) emissions reduction targets as “intended nationally determined contributions,” rather than being compulsory allocated.<sup>12</sup> Developed countries, in pursuing their responsibilities, will be more constrained morally, other than compelled by international regulation. As a result, fair and reasonable implementation of the CBDR is still difficult under the Paris Agreement.

The primary purpose of this research is to propose a theoretical and regulatory framework for a new type of climate change regime in order to resolve disagreements

<sup>8</sup> Q. Zhang, *Legal Approaches to Climate Change Adaptation - the Victims' Perspective* 论应对气候变化的适应制度选择-受害者视角 (Apr. 2010) (unpublished LL.D. Dissertation of Wuhan University) (on file with cnki.net, available at <http://www.cnki.net>).

<sup>9</sup> D. HUNTER, J. SALZMAN & D. ZAELEKE, *INTERNATIONAL ENVIRONMENTAL LAW AND POLICY* 495 (3d. ed. 2007).

<sup>10</sup> UNFCCC art. 4.

<sup>11</sup> UNFCCC, Adoption of the Paris Agreement, FCCC/CP/2015/L.9/Rev.1, (Dec. 12, 2015) at 16, available at <http://unfccc.int/resource/docs/2015/cop21/eng/109r01.pdf> (last visited on Apr. 8, 2016).

<sup>12</sup> *Id.*

among countries and encourage the initiative of the international community. The authors will introduce a “bridging mechanism for adaptation and mitigation,” which integrates mitigation measures and adaptation in climate change. This paper is composed of five parts including a short Introduction and Conclusion. Part two will discuss the inherent defect of a mitigation and adaptation regime. Part three will analyze the jurisprudential base underlying the existing climate change regime, namely CBDR, and suggests the adoption of “common and symmetrical responsibility” as the jurisprudential base for the future climate change regime. Part four will propose the regulatory framework of the bridging mechanism for adaptation and mitigation.

## 2. The Dilemma of Climate Change Law in Practice

### A. Mitigation

The quantified emission limitation and reduction commitments (“QELRC’s”) under Article III of the Kyoto Protocol are the most important mitigation measures so far. QELRCs carried out by developed countries have been actually curbing climate change. The Intergovernmental Panel on Climate Change (“IPCC”) estimates that in order to limit temperature change to less than 2°C by 2100, global GHG emissions levels in 2050 must be 25 to 55 percent lower than they were in 2010.<sup>13</sup> Without additional climate mitigation efforts, global temperature of 2100 is estimated to increase to 3.7°C–4.8°C higher than pre-industrial levels (1750), which could be devastating the environment.<sup>14</sup> Due to the transparent and binding character of QELRC’s, furthermore, the clarification of quantified emission reduction targets helps to build confidence and trust among Parties.<sup>15</sup> Currently, there is not a substitute mitigation measure for QELRC’s, but considerable disagreement over the following two key elements for the development of mitigation.

<sup>13</sup> IPCC, *Summary for Policymakers 3: Future Pathways for Adaptation, Mitigation and Sustainable Development*, in Climate Change 2014: Synthesis Report, at 21, available at <http://ar5-syr.ipcc.ch> (last visited on Apr. 8, 2016).

<sup>14</sup> *Id.* at 20.

<sup>15</sup> UNFCCC, Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, FCCC/CP/2011/9/Add.1, (Mar. 15, 2012) at 5, available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=4> (last visited on Apr. 8, 2016).

### 1. *The Allocation of QELRC's*

The first element for the mitigation is the allocation of QELRC's. The main problem lies in whether developing countries or, at least, the newly industrializing countries ("NICs") should make any reduction commitments, despite the disagreement among parties on their understanding of justice. Under the two-tier system established by the Kyoto Protocol, developed countries obtained no benefits from undertaking and fulfilling various climate obligations, while developing countries accepted financial and technological assistance without bearing any binding reduction obligations. Although both sides have recognized that "the time frame for peaking will be longer in developing countries and [...] social and economic development and poverty eradication are the first and overriding priorities of developing countries,"<sup>16</sup> the allocation of QELRC's has remained a highly controversial issue.

As the disparities and inequalities within the developing country group are immense, it is hardly feasible to consolidate all these countries together.<sup>17</sup> In the past decade, the rise of NIC's was a challenge to the old climate regime. China was the world's biggest carbon emitter, accounting for 23.43 percent of global CO<sub>2</sub> emissions in 2014. India and Brazil ranked third (5.7 percent) and fifth (4.17 percent), respectively, in that year.<sup>18</sup> However, developing countries' emissions are not subject to the binding character of the Kyoto Protocol. These static frameworks could not accommodate unpredictable fluctuations in economic growth, thereby placing NICs in an embarrassing position, because the mitigation strategy failed to provide sufficient incentives for voluntary emission reductions. Although various mitigation measures have been taken in many countries' economic sectors since 1992, the global emissions of 2010 were 31 percent above the 1990 emissions levels. It indicates that the reduction carried out by developed countries is far from sufficient to curb GHG emissions growth.<sup>19</sup>

Another question regarding the limited coverage of QELRC's is that offsetting emissions may increase in those countries without controlling mechanisms in place. This phenomenon, typically referred to as 'carbon leakage,' is caused by the lower

<sup>16</sup> *Id.*

<sup>17</sup> P. CULLET, DIFFERENTIAL TREATMENT IN INTERNATIONAL ENVIRONMENTAL LAW 16 (2003).

<sup>18</sup> *See The largest producers of CO<sub>2</sub> emissions worldwide in 2014, based on their share of global CO<sub>2</sub> emissions*, Statista, available at <http://www.statista.com/statistics/271748/the-largest-emitters-of-co2-in-the-world> (last visited on Apr. 8, 2016).

<sup>19</sup> IPCC, *Summary for Policymakers 4: Mitigation pathways and measures in the context of Sustainable Development*, in *Climate Change 2014: Mitigation of Climate Change*, at 13, available at [http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc\\_wg3\\_ar5\\_summary-for-policymakers.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf) (last visited on Apr. 8, 2016).

price of energy as well as the relocation of energy-intensive industries.<sup>20</sup> A research shows that the global carbon leakage rate is found to range between 50 percent and 130 percent, depending on the type of market structure.<sup>21</sup> It has the potential to significantly dilute the global mitigation efforts. As noted by the Bush administration in 2002, “developing nations such as China and India already account for a majority of the world’s greenhouse gas emissions, and it would be irresponsible to absolve them from shouldering some of the shared obligations.”<sup>22</sup> Most developed countries favor a flexible and evolving categorization of parties, which would permit differences within and between developed and developing countries to be taken into account, when making obligations under the future climate regime.<sup>23</sup> It is dubious that the current mitigation regime can effectively constrain emissions without the participation of the developing countries. As a result, developed countries with increasing GHG emissions such as Canada and Japan withdrew from the Kyoto Protocol before the commitment period ended or have refused to extend it.<sup>24</sup>

On the other side, developed countries need to reverse their negative attitude towards mitigation commitments. The outcome of mitigation depends upon a long-term course of action. At present, however, developed countries are hesitant to join any international mitigation effort, which lacks direct, obvious, and ascertainable benefits. In the first commitment period of the Kyoto Protocol (2008-12), developed countries were committed to only a 5 percent total cut in GHG emissions. It was not so significant that developing countries had no space and incentive to assume ‘differentiated responsibility.’<sup>25</sup> In addition, the assigned amounts and the annual average for the commitment period were enormously overestimated, especially for Nordic and Eastern European countries.<sup>26</sup> *E.g.*, Russian emissions in 1997 were about

<sup>20</sup> M. Babiker, *Climate Change Policy, Market Structure, and Carbon Leakage*, 65 J. INT’L ECON. 421-45 (2005), available at <http://isiarticles.com/bundles/Article/pre/pdf/19702.pdf> (last visited on Apr. 8, 2016).

<sup>21</sup> *Id.*

<sup>22</sup> G. Bush, Remarks by the President on Climate Change and Clean Air, The White House Office of the Press Secretary (Feb. 14, 2002), available at <http://www.epw.senate.gov/107th/GeorgeBush.htm> (last visited on Apr. 8, 2016).

<sup>23</sup> L. Rajamani, *Developing Countries and Compliance in the Climate Regime*, in PROMOTING COMPLIANCE IN AN EVOLVING CLIMATE REGIME 367-94 (J. Brunnée et al. eds., 2011).

<sup>24</sup> Staff and Agencies, *Canada pulls out of Kyoto protocol*, GUARDIAN, Dec. 12, 2011, available at <http://www.theguardian.com/environment/2011/dec/13/canada-pulls-out-kyoto-protocol>. See also J. Vidal, *Cancun climate change summit: Japan refuses to extend Kyoto protocol*, GUARDIAN, Dec. 1, 2010, available at <http://www.theguardian.com/environment/2010/dec/01/cancun-climate-change-summit-japan-kyoto> (all last visited on Apr. 8, 2016).

<sup>25</sup> For details, see D. Dreisen, *Free Lunch or Cheap Fix: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1-88 (1998), available at <http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1240&context=calr> (last visited on Apr. 8, 2014).

<sup>26</sup> A. ZAHAR, INTERNATIONAL CLIMATE CHANGE LAW AND STATE COMPLIANCE 114 (2014).

50 percent lower than those in 1990.<sup>27</sup> Nevertheless, developed countries still lack political intention to make further commitments. Although the process for further commitments beyond 2012 had been initiated by early 2005, it was not until the end of 2012 that the parties reached an agreement in Doha, four years later than the developing countries expected.<sup>28</sup> Developed countries' negative attitude towards the second commitment period (2013-17) has frustrated developing countries. Therefore, developing countries would not agree to restrict their emissions until the larger emitters make significant reductions in their own GHG emissions.<sup>29</sup>

## 2. *The Implementation of QELRC's*

The implementation of the existing QELRC's is another problem of the mitigation regime. Due to the inadequate compliance mechanism, much of the monitoring and all legal enforcement measures seemed to be devolved to the domestic level.<sup>30</sup>

In the Kyoto Protocol's first commitment period (2008-12), six parties within Annex I exceeded their assigned amounts of GHG emissions, namely, Austria, Canada,<sup>31</sup> Iceland, Japan, Luxembourg, and Switzerland.<sup>32</sup> The reductions from nearly half of the parties were stayed within their assigned amounts; it may not be attributed to mitigation efforts and emissions management, but to their economic structures in transition (EIT Parties), including the former Soviet republics or other former socialist countries in Eastern Europe. Further, the prospects of the ongoing second commitment period appears dim, because the US, Canada, Russia, New Zealand, and Japan already withdrew from the Kyoto Protocol or have no intention to be obliged to the second commitment period.<sup>33</sup> Today, the parties making up only

<sup>27</sup> *Id.*

<sup>28</sup> UNFCCC, Consideration of commitments for subsequent periods for Parties included in Annex I to the Convention under Article 3, paragraph 9 of the Kyoto Protocol, FCCC/KP/CMP/2005/8/Add.1, (Dec. 9, 2005), available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=3>; Doha Amendment to the Kyoto Protocol, available at [http://unfccc.int/files/kyoto\\_protocol/application/pdf/kp\\_doha\\_amendment\\_english.pdf](http://unfccc.int/files/kyoto_protocol/application/pdf/kp_doha_amendment_english.pdf); Possible elements for draft decision on Article 3.9 of the Kyoto Protocol proposed by G77 & China, FCCC/KP/CMP/2005/MISC.3, (Nov. 30, 2005) at 3, available at <http://unfccc.int/resource/docs/2005/cmp1/eng/misc03.pdf> (all last visited on Apr. 8, 2016).

<sup>29</sup> R. Percival, *Climate Change and the Emergence of Global Environmental Law*, in ADDRESSING CLIMATE CHANGE: A SURVEY OF NATIONAL AND INTERNATIONAL LAW FROM AROUND THE WORLD 56-70 (World Jurist Association ed., 2010).

<sup>30</sup> J. Brunnée, *Promoting Compliance in an Evolving Climate Regime*, in PROMOTING COMPLIANCE IN AN EVOLVING CLIMATE REGIME 38-54 (J. Brunnée et al. eds., 2011).

<sup>31</sup> Canada withdrew from the Protocol before the period ended.

<sup>32</sup> UNFCCC Secretariat, Inventory Review Reports 2013, available at [http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/inventory\\_review\\_reports/items/6947.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/inventory_review_reports/items/6947.php) (last visited on Apr. 8, 2016). See also Zahar, *supra* note 26, at 112-3.

<sup>33</sup> See Consideration of commitments for subsequent periods for Parties included in Annex I to the Convention under Article 3, paragraph 9 of the Kyoto Protocol, *supra* note 28

38 per cent of the world's total emission in 1990 are bound to their second period commitments under the Kyoto Protocol. This raised doubts about the effectiveness of the so-called 'Kyoto approach.'<sup>34</sup> Economically, the Kyoto Protocol is not efficient, either. Considering the shortcomings from using pure quantity-type mechanisms such as emissions constraints, it should call for further innovation to the mitigation regime.<sup>35</sup>

## B. Adaptation

As adaptation measures need high cost, its strategy is confronted with the difficulties in fund raising. To ensure adequate funds continuously available for adaptation in developing countries, developed countries should establish an efficient and fair climate financing mechanism.<sup>36</sup> A number of multilateral climate change funds thus provide or tend to provide financial supports for adaptation or both adaptation and mitigation in developing countries. Notable examples are the Global Environment Facility Trust Fund - Climate Change focal area (GEF 4, GEF 5 & GEF 6), the Least Developed Countries Fund ("LDCF"), the Special Climate Change Fund ("SCCF"), the Adaptation Fund ("AF"), and the Green Climate Fund ("GCF").<sup>37</sup> As the international community understands the adaptation strategies more widely, the fund supply situation has notably improved.<sup>38</sup> A point at issue is how the developed countries have made the collective commitment in the Cancun Agreements to "provide new and additional resources [...] approaching US\$ 30 billion for the period 2010–2012, with a balanced allocation between adaptation and mitigation."<sup>39</sup>

<sup>34</sup> X. Gao & W. Wang, *A Discriminative Analysis of the Difference between the First and Second Commitment Period of the Kyoto Protocol* 《京都议定书》第二承诺期与第一承诺期的差异辨析, 4 GLOBAL REV. 环球展望 27-41 (2013).

<sup>35</sup> W. Nordhaus, *Global warming economics*, 294 SCI. 1283-4 (Nov. 9, 2001), available at [http://aida.econ.yale.edu/~nordhaus/homepage/nordhaus\\_science\\_110901.pdf](http://aida.econ.yale.edu/~nordhaus/homepage/nordhaus_science_110901.pdf) (last visited on Apr. 8, 2016).

<sup>36</sup> L. de Chazournes, *The Climate Change Regime - Between a Rock and a Hard Place?*, 25 FORDHAM ENVTL. L. REV. 625-732 (2014), available at <https://archive-ouverte.unige.ch/unige:39067> (last visited on Apr. 8, 2016).

<sup>37</sup> There are some other financing channels, which, out of the scope of this paper, also supply funds for the climate response in developing countries through bilateral, regional and other channels such as the multilateral climate change funds outside the UNFCCC, multilateral financial institutions, specialized UN Bodies. See, e.g., Chazournes, *supra* note 36, at 625-732; UNFCCC, Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, FCCC/CP/2011/9/Add.1, (Mar. 15, 2012) at 5, available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=4>; Climate Funds Update, *The Funds* (2015), available at <http://www.climatefundsupdate.org/the-funds> (all last visited on Apr. 8, 2016).

<sup>38</sup> J. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENVTL. L. 363-436 (2010), available at <http://biotech.law.lsu.edu/climate/docs/ssrn-id1517374.pdf> (last visited on Apr. 8, 2016).

<sup>39</sup> UNFCCC, The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, FCCC/CP/2010/7/Add.1, (Mar. 15, 2011) at 16, available at <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2> (last visited on Apr. 8, 2016).

As of October 2015, “pledges to the major climate funds” related to adaptation have exceeded USD 13 billion (Table 1), which was a significant progress of the climate regime.<sup>40</sup>

Table 1: Pledges to Major Multilateral Climate Funds<sup>41</sup>

Multilateral Climate Funds	Pledges (USD million)	Last Update Date	Remarks
GEF 6 (2014-2018)	1,101.3	October 2015	Including the contribution from developing countries
LDCF	934.6	October 2014	
SCCF	349.0	June 2015	
AF	487.8	June 2015	Including the contribution from sale of CERS <sup>42</sup>
GCF	10,205.0	October 2015	

Source: Compiled by the authors.

However, extensive studies show that the economic costs involved in adaptation strategy may be much higher than expected.<sup>43</sup> According to a World Bank’s report, global adaptation will cost from USD 70 to USD 100 billion annually by 2050.<sup>44</sup> Nonetheless, the actual expenditures for adaptation in 2011 were estimated at USD244 million, which were increasing into about USD395 million in 2012.<sup>45</sup> There is still a wide gap between actual demand for funds and financial resources available

<sup>40</sup> Climate Funds Update, *supra* note 37.

<sup>41</sup> *Id.*

<sup>42</sup> UNFCCC, Funding under the Kyoto Protocol, FCCC/CP/2001/13/Add.1, (Jan. 21, 2002) at 52, available at <http://unfccc.int/resource/docs/cop7/13a01.pdf#page=52> (last visited on Apr. 8, 2016).

<sup>43</sup> IPCC, *Economics of Adaptation*, in Climate Change 2014: Impacts, Adaptation and Vulnerability, at 959, available at [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap17\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap17_FINAL.pdf) (last visited on Apr. 8, 2016).

<sup>44</sup> IBRD, ECONOMICS OF ADAPTATION TO CLIMATE CHANGE: SYNTHESIS REPORT, at 19, available at [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/06/27/000425970\\_20120627163039/Rendered/PDF/702670ESW0P10800EACCSynthesisReport.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/06/27/000425970_20120627163039/Rendered/PDF/702670ESW0P10800EACCSynthesisReport.pdf) (last visited on Apr. 8, 2016).

<sup>45</sup> A. Elbehri, A. Genest & M. Burfisher, *Agriculture and Climate Change Mitigation and Adaptation*, in GLOBAL ACTION ON CLIMATE CHANGE IN AGRICULTURE: LINKAGES TO FOOD SECURITY, MARKETS AND TRADE POLICIES IN DEVELOPING COUNTRIES (2011), at 11, available at <http://re.indiaenvironmentportal.org.in/files/file/global%20action%20on%20climate%20change.pdf>. See also L. Schalatek et al., *Climate finance thematic briefing: adaptation finance*, (Dec. 2014), at 1, available at <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9325.pdf> (all last visited on Apr. 8, 2016).

for adaptation.

The lack of adaptation funds may stem from the relatively unreliable and undiversified sources of such funds. A majority of the multilateral climate change funds are thus obtained through voluntary contributions from developed countries, which are a primary, if not the sole, source of such funds.<sup>46</sup> Although Article 4(4) of the UNFCCC obligates developed countries to “assist the developing country parties ... in meeting costs of adaptation to those adverse effects,” this provision actually lacks specificity in identifying the amount of funds that developed nations should provide for adaptation.<sup>47</sup> In other words, the UNFCCC sets up merely a framework for financial resources transfer, whereas the fund raising for multilateral financing mechanisms heavily relies upon the climate negotiations as well as the conscious implementation of the commitments.

In the current climate regime, developed countries (Annex 1) take unilateral and ethical responsibility to commit financial resources, rather than to achieve compliance with their existing obligations. Therefore, some developed countries are not motivated to make extra commitments in order to meet the demand for adaptation measures in developing ones.<sup>48</sup> In addition, as noted by IPCC, financial resources for adaptation have become available more slowly than those for mitigation in both developed and developing countries.<sup>49</sup> It is estimated that more than three quarters of the total amount of international funding provided to developing countries in 2006-2009 was used for mitigation.<sup>50</sup> The international community still considers mitigation as the primary solution to climate change, thus drawing the attention from adaptation persistently, before the climate regime bridges the gap between mitigation and adaptation.<sup>51</sup>

### *C. Lessons from the Current Regime*

As mentioned above, a lot of loopholes exist in the current regulatory framework

<sup>46</sup> Climate Funds Update, *supra* note 37.

<sup>47</sup> J. Larson, *Racing the Rising Tide: Legal Options for the Marshall Islands*, 21 MICH. J. INT'L L. 495-522 (1999-2000).

<sup>48</sup> Y. Li, X. Ma, Q. Gao, Y. Wan, S. Liu & X. Qin, *The Key Issues and Trend Analysis of the Climate Change Adaptation Negotiations* 适应气候变化谈判的焦点问题与趋势分析, 6 ADVANCES IN CLIMATE CHANGE RES. 气候变化研究进展 296-300 (2010).

<sup>49</sup> IPCC, *Summary for Policymakers 4: Adaptation and Mitigation*, in *Climate Change 2014: Synthesis Report*, at 31, available at <http://ar5-syr.ipcc.ch> (last visited on Apr. 8, 2016).

<sup>50</sup> S. Olbrisch et al., *Estimates of Incremental Investment for and Cost of Mitigation Measures in Developing Countries*, 11 CLIMATE POL'Y 970-86 (2011).

<sup>51</sup> Z. Zhang & Q. Zhang, *The Developmental Obstacles and Lags of International Climate Adaptation Regime* 国际气候适应制度的滞后性及其发展障碍, 2 LEGAL SCI. 法学 127-37 (2010).

governing mitigation and adaptation. The root cause of the dilemma in climate regime is the lack of interest balance on a global level. It indicates that an equitable rights and obligations distribution mechanism is a way out of the impasse.<sup>52</sup> Ideally, a mechanism should thus bridge the gap between the interests of developing and developed countries, thereby enabling the former to benefit from funding by the latter. An integral part of the mechanism should be also a more reasonable distribution of mitigation cost. Further, it is essential to eliminate the ‘ineffective differentiation,’ rebalancing the seemingly competing interests of parties without sacrificing the basic interests of developing nations.<sup>53</sup>

### 3. Common and Symmetrical Responsibility: A Proposal to Restructure CBDR

#### A. *The Limits of CBDR in Practice*

CBDR is a well-recognized principle of sharing responsibility in the climate change regime, thereby providing an equitable basis for cooperation between developing and developed countries.<sup>54</sup>

It has two elements such as common responsibility of States and differentiated treatment, both of which are in accordance with the ability to prevent damage and the contribution of States to creating the problem.<sup>55</sup> These two indispensable elements would render the principle politically acceptable and sufficiently flexible to facilitate the most extensive State participation.<sup>56</sup> In particular, differential treatment for developing countries is the most effective way to promote their participation in

<sup>52</sup> D. Gu, *The Remodeling of Common but Differentiated Responsibility – the Dilemma of Kyoto Model and the Return of Montreal Model* 共同但有区别责任的重塑—京都模式的困境与蒙特利尔模式的回归, 6 J. CHINA U. GEOSCIENCES (Social Sciences Edition) 中国地质大学学报(社会科学版) 8-17 (2011).

<sup>53</sup> M. Bortschelle, *Equitable but Ineffective: How the Principle of Common but Differentiated Responsibilities Hobbles the Global Fight against Climate Change*, 10 SUSTAINABLE DEV. L. & POL'Y 49-69 (2010), available at <http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1036&context=sdlp> (last visited on Apr. 8, 2016).

<sup>54</sup> W. Scholtz, *Different Countries, One Environment: A Critical Southern Discourse on the Common but Differentiated Responsibilities Principle*, 33 S. AFR. Y.B. INT'L L. 113-36 (2008).

<sup>55</sup> P. SANDS & J. PEEL, *PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW* 233 (3d. ed. 2012).

<sup>56</sup> *Id.* See also A. HALVORSSON, *EQUALITY AMONG UNEQUALS IN INTERNATIONAL ENVIRONMENTAL LAW: DIFFERENTIAL TREATMENT FOR DEVELOPING COUNTRIES* 184 (1999); L. KOU, *The Common but Differentiated Responsibilities Principle: Evolution, Nature, and Function* 共同但有区别责任原则: 演进、属性与功能 4 LEGAL SCI. (Journal of Northwest University of Political Science and Law) 法律科学(西北政法学报) 95-103 (2013).

the formation and implementation of international environmental regime.<sup>57</sup> Guided by the principle of CBDR, the UNFCCC divided the member States into two groups: developed and developing countries, laying a legal foundation for the differential norm.<sup>58</sup> Article IV (7) of the UNFCCC provides:

The extent to which developing country Parties will effectively implement their commitments will depend on the effective implementation by the developed country Parties of their commitments relating to financial resources and transfer of technology and will also take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.<sup>59</sup>

CBDR has made a remarkable progress toward an open and fair international climate regime, but it is far from perfect in practice. The uncertainty of ‘differentiated responsibility’ often causes arbitrary interpretations of CBDR, which turns out common responsibility to be an empty promise.<sup>60</sup> As a legal principle, CBDR does not specifically determine the content of ‘differentiated responsibility’ before every negotiation.<sup>61</sup> Without flexibility, inclusiveness and negotiability, this principle cannot work actively. Due to different understandings of justice and fairness between developed and developing countries, even worse, it is always difficult for them to reach consensus on the extent of differential treatment.<sup>62</sup> Consequently, the uncertainty leads to selfish and arbitrary interpretations on the issue of climate responsibility allocation so that every country may shift her own responsibility to the other.

The controversy over ‘differential treatment’ in climate negotiation would result in the opposition between developing and developed countries, obscuring the significance of common responsibility.<sup>63</sup> Such inherent defect of CBDR has thus

<sup>57</sup> Halvorsen, *id* at 184.

<sup>58</sup> M. Weisslitz, *Rethinking the Equitable Principle of Common but Differentiated Responsibility: Differential versus Absolute Norms of Compliance and Contribution in the Global Climate Change Context*, 13 COLO. J. INT'L ENVTL. L. & POL'Y 473-510 (2002), available at <http://heinonline.org/HOL/LandingPage?handle=hein.journals/colenvlp13&div=27&id=&page=> (last visited on Apr. 8, 2016).

<sup>59</sup> UNFCCC art. 4(7).

<sup>60</sup> Y. Li & W. Cao, *Breaking the Deadlock: the Reinterpretation of Common but Differentiated Responsibilities Principle* 打破僵局：对“共同但有区别的责任原则”的重释, 2 J. RENMIN U. CHINA 中国人民大学学报 91-101 (2013).

<sup>61</sup> U. BEYERLIN & T. MARAUHN, INTERNATIONAL ENVIRONMENTAL LAW 63-5 & 70-7 (2011).

<sup>62</sup> M. Richards, *Poverty reduction, equity and climate change: challenges for global governance*, Overseas Development Institute (Apr. 2003), available at <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4164/83-poverty-reduction-equity-climate-change.pdf?sequence=1&isAllowed=y> (last visited on Apr. 8, 2016).

<sup>63</sup> *Supra* note 60, at 95.

delivered ‘free riders’ acting in their own individual profits, rather than the common interest.<sup>64</sup> To deal with the impasse in climate negotiation, the principle of CBDR must be interpreted in the light of contemporary economic realities to correct this hidden incentive.

### ***B. The Developmental Interpretation of CBDR***

The core issue of CBDR is to strike the balance between ‘common responsibility’ and ‘differential treatments.’<sup>65</sup> First, the ‘common responsibility’ requires to limit temperature change to 2°C by 2100. In order to obtain this goal, the international community should lower 40 - 70 percent of global GHG emissions in 2050 than those of 2010, and emissions levels near or below 0°C by 2100.<sup>66</sup> The climate change initiative would thus ask unprecedented global cooperation so that all parties would be taking collective obligation to “promote sustainable management” and to “cooperate in preparing for adaptation to the impacts of climate change.”<sup>67</sup> ‘Common responsibility’ aims to promote the further participation of developing countries in mitigation and adaptation as well as the implementation of commitments of developed countries. It should be considered as the most essential element of the CBDR principle.<sup>68</sup>

Second, the ‘differential treatments’ is rather a practical way to allocate emission targets into all countries.<sup>69</sup> Given the historical responsibility and the economic costs involved, developing countries could undertake different climate responsibility in kind or degree from that of developed countries to a certain range.

Concerning the restructuring of ‘differential treatments,’ Lavanya Rajamani maintains that: “Symmetry rather than differentiation is intended to be the central organizing principle of the future climate regime.”<sup>70</sup> A new proposal reinterpreting

<sup>64</sup> C. Stone, *Common but Differentiated Responsibilities in International Law*, 98 AM. J. INT’L L. 276-301(2004), available at [http://law.usc.edu/assets/docs/Common\\_but.pdf](http://law.usc.edu/assets/docs/Common_but.pdf) (last visited on Apr. 8, 2016).

<sup>65</sup> Y. Liu, *A Preliminary Study on the Common but Differentiated Responsibilities Principle in International Environmental Law* 浅论国际环境法中的共同但有区别的责任原则, 20 LEGAL SYSTEM & SOC’Y 法制与社会 18-20 (2011).

<sup>66</sup> *Supra* note 19, at 10.

<sup>67</sup> UNFCCC art. 4(1).

<sup>68</sup> *Supra* note 60, at 93.

<sup>69</sup> V. Bosetti & J. Frankel, *Sustainable Cooperation in Global Climate Policy: Specific Formulas and Emission Targets to Build on Copenhagen and Cancun Discussion*, NBER Working Paper Series No. 17669 (Dec. 2011), available at <http://www.nber.org/papers/w17669.pdf> (last visited on Apr. 8, 2016).

<sup>70</sup> L. Rajamani, *The Durban platform for enhanced action and the future of the climate regime*, 61 INT’L & COMP. L. Q. 501-18 (2012), available at <http://dx.doi.org/10.1017/S0020589312000085> (last visited on Apr. 8, 2016).

CBDR is “Common and Symmetrical Responsibility.”<sup>71</sup> As a derivative of CBDR, rather than its total repudiation, ‘symmetrical responsibility’ means that developing countries take responsibility proportional to that of developed countries. In other words, developing countries are entitled to get financial and technological aid under the UNFCCC when they make efforts commensurate with their abilities.

The Paris Agreement has established a regulatory framework based upon general participation and nationally determined contributions to the global response to climate change.<sup>72</sup> It provides for transferring more resources from developed countries to the least developed countries (“LDCs”) and small island countries.<sup>73</sup>

The asymmetrical norms in climate regime have been recovering with the changing understanding of CBDR.<sup>74</sup> In the earliest stage, the UN solicited participation from developing countries by drafting the conventional understanding of CBDR, in order to adopt the UNFCCC as a global regulatory framework for climate change as soon as possible. Halvorsen notes that the asymmetrical norms should be temporary, enabling developing countries to ‘catch up’ with developed countries.<sup>75</sup> The UNFCCC, like other international environmental treaties, provided for a ‘buffer period’ during which the developing countries were able to promote economic development without any binding reduction obligations.<sup>76</sup> When this buffer period ‘expires,’ developing countries could exercise greater leadership in climate change regime. Considering the significant vulnerability of developing countries, it is sensible for them to take less responsibility as a condition to participating in the international climate change regime with developed countries.

### *C. Legal Protection of “Common and Symmetrical Responsibility”*

Even though the Paris Agreement presents a sign of ‘symmetrical responsibility,’ the current climate legislation is insufficient to ensure the implementation of this new principle for the following reasons.

First, the ‘symmetrical responsibility’ is only referred to as a theoretical concept

<sup>71</sup> “Common and Symmetrical Responsibility” is a term devised by the authors to describe the newly proposed interpretation of the CBDR principle.

<sup>72</sup> UNFCCC, Adoption of the Paris Agreement, FCCC/CP/2015/10/Add.1, (Jan. 29, 2016) at 21, available at <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf> (last visited on Apr. 8, 2016).

<sup>73</sup> Paris Agreement arts. 9(4) & 11(1).

<sup>74</sup> Q. Chao, Y. Zhang, X. Gao & M. Wang, *The Paris Agreement - A New Beginning for Global Climate Governance* 巴黎协定—全球气候治理的新起点, 12 CLIMATE CHANGE RES. 气候变化研究进展 61-6 (2016).

<sup>75</sup> Halvorsen, *supra* note 56.

<sup>76</sup> *Id.* at 71, 73 & 75.

which lacks official recognition and statement in the UNFCCC. The Paris Agreement takes a prudent way to state its guiding principle, as “common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.”<sup>77</sup> In fact, ‘symmetrical responsibility’ has been adopted as the dominating principle of climate regime through a long way.

Second, ‘symmetrical responsibility’ is not a legally binding mechanism. Zhenhua Xie, China’s special representative on climate change, *e.g.*, pointed out that nations should mutually trust with each other fulfilling their promises, in order to make the Paris talks successful.<sup>78</sup> Xie’s idea appeared to reflect China’s concerns about the potential moral hazard in the joint operation, while China, as a developing country, has promised to cut carbon intensity by 60 - 65 percent from 2005 levels by 2030.<sup>79</sup> If the developed countries continue to dodge the responsibility they have already undertaken under the UNFCCC and other major developing countries remain aside from the global response to climate change, it will inevitably endanger China’s economic interests.<sup>80</sup> It can be even worse when the bad example overdrafts excessively the nations’ climate credit. Any future effort to mobilize collective action may be jeopardized without mutual trust. China is thus concerned about the true reflection of the collective action dilemma in climate negotiation. A legally binding mechanism can contribute to solving this dilemma.

The future climate negotiations should be characterized by general participation, interest linkage, and proportionate responsibility. This could well focus on climate change itself. To maintain balanced symmetry in a changing world, it is essential to establish the legal structure for mutual trust.

## 4. A Bridging Mechanism for Adaptation and Mitigation

### A. Overview

As noted by IPCC, ‘adaptation’ and ‘mitigation’ are complementary strategies for

<sup>77</sup> *Supra* note 11, at 22.

<sup>78</sup> See *China Wants Legally Binding Climate Agreement from Paris Talks*, BLOOMBERG NEWS, Nov. 19, 2015, available at <http://www.bloomberg.com/news/articles/2015-11-19/china-wants-legally-binding-climate-agreement-from-paris-talks> (last visited on Apr. 8, 2016).

<sup>79</sup> *Id.*

<sup>80</sup> H. Chen & T. Jiang, *The Political Game in Greenhouse Gas Abatement* 温室气体减排的国际政治博弈, 10 WORLD ECONOMICS & POLITICS 世界经济与政治 58-63 (2005).

reducing and managing the risks of climate change. Both are closely interlinked for offsetting their co-benefits and adverse side effects.<sup>81</sup> To create the overarching climate regime, bridging the gap between adaptation and mitigation should be indispensable.

Based upon the principle of “common and symmetrical responsibility,” the authors will propose a “Bridging Mechanism for Adaptation and Mitigation” (hereinafter Bridging Mechanism), theoretical and regulatory framework for synthesizing the demands of adaptation and mitigation as well as those of developing and developed countries together.<sup>82</sup> As a form of market mechanism, the bridging mechanism seeks to encourage those emitters who are best able to reduce their emissions to do so by compensating them with financial resources from multilateral climate funds.<sup>83</sup>

Given the high costs of making a fresh start with climate regime, the bridging mechanism tends to maintain the current responsibility arrangement. The bridging mechanism is conceived as a means to integrate the existing adaptation and mitigation strategies. Then, by applying symmetrical responsibility to climate regime, it ensures the rights to develop of developing countries and the steady contribution from multilateral climate financing mechanisms, while the developed countries are entitled to more flexible approach to achieve compliance with their commitments under the Kyoto Protocol and the Paris Agreement.

### ***B. “Cut-or-Fund” Scheme in Developed Countries***<sup>84</sup>

Under the “cut-or-fund” scheme, a developed country party could make a financial contribution to a multilateral climate financing mechanism for developing countries. It can be converted into a proportional emission of this country to take deductions on its QELRC’s. All the deduction requests would go through a review process which would be undertaken through either the Convention Secretariat, or a new international clearing house under the UNFCCC.

According to current international practice, developed countries are under more

<sup>81</sup> *Supra* note 1.

<sup>82</sup> ‘Bridging Mechanism’ is a term devised by the authors to describe the newly proposed market mechanism in climate regime, primarily based on the allocation of QELRC’s and the sharing of multilateral climate funds (i.e., “cut-or-fund” scheme in developed countries and “cut-and-fund” scheme in developing countries).

<sup>83</sup> L. Lo Baugh, *Global Implications of climate change - a review of low hanging fruit: LEED, GCCS, solar, wind, cap & trade*, in ADDRESSING CLIMATE CHANGE: A SURVEY OF NATIONAL AND INTERNATIONAL LAW FROM AROUND THE WORLD 56-70 (World Jurist Association ed., 2010).

<sup>84</sup> “Cut-or-fund Scheme” is a term devised by the authors to describe the newly proposed scheme, which establishes connections between climate fund mechanisms and developed countries’ QELRC’s.

binding reduction obligations than developing countries following their economic strength, so that they would suffer from serious pressure to reduce emissions. “Cut-or-fund” scheme can help to not only ease the tension between emission reduction targets and mitigation capability, but also promote the efficient allocation of financial resources in the climate regime. Notwithstanding its committal of substantial efforts as well as inability to meet the reduction commitments under the Kyoto Protocol or the Paris Agreement, a “cut-or-fund” scheme can be perceived as a market mechanism for dealing with such situations that one developed country party could avoid either violating its obligations or undertaking undesirably high-impact mitigation measures that pose a significant risk to its socio-economic development. If the fund and QELRC’s are corresponding well under “cut-or-fund” scheme, the climate negotiations are supposed to set the cap on QELRC’s deduction as well as the progressive conversion rate of fund to QELRC’s. In this case, the developed country Parties could wholly replace the mitigation efforts with financial contributions.

### C. “Cut-and-Fund” Scheme in Developing Countries<sup>85</sup>

Following symmetrical responsibility, developing countries should be integrated into an effective framework with clearly defined and agreed mitigation measures. Commitments, however, should be free of any specific target and timetable just as the Paris Agreement designed, because they are contingent upon the developed countries’ assistance.<sup>86</sup>

As indicated above, today’s multilateral climate funds can only support the limited adaptation needs of developing countries, owing to various difficulties in fund raising. Once a “cut-or-fund” scheme is implemented in developed countries, the climate financing mechanism is likely to receive more substantial financing than before. It is a main prerequisite for the success of the “cut-and-fund” scheme in developing countries. As a consequence, under the “cut-and-fund” scheme, developing countries will have the capacity to adopt various voluntary mitigation measures and play an important role within the Clean Development Mechanism (“CDM”) or other market mechanisms. The resulting GHG emission reduction could then be converted into an additional amount of adaptation funds after the review process.

<sup>85</sup> “Cut-and-fund Scheme” is a term devised by the authors to describe the newly proposed scheme, which establishes connections between adaptation funds and developing countries’ voluntary mitigation efforts.

<sup>86</sup> V. Nanda, *Climate Change, Developing Countries, and Human Rights: An International Law Perspective*, in CLIMATE CHANGE AND ENVIRONMENTAL ETHICS 145-70 (V. Nanda ed., 2012).

This soft-incentive and interest-based scheme, differing from other proposals imposing binding reduction obligations on developing countries, has the potential to be effective in incentivizing autonomous entities to collaborate on climate issues and avoid exacerbating the conflict between developing and developed countries.<sup>87</sup>

First, when a number of developing countries are unable to take any mitigation measures due to widespread poverty, they should be entitled to adequate and increasing “basic adaptation funds” that will serve for the changing climate system. Basic adaptation funds should be given priority in the allocation of financial resources from the climate financing mechanism. The undertaking voluntary mitigation efforts, however, should not be a prerequisite. Only the financial resource remaining after deducting basic adaptation funds should be distributed in the “cut-and-fund” scheme.

Second, due to the diverse economic and political conditions in various developing countries, the dynamic relationship between basic adaptation funds and GHG emissions should be established as a rough indicator of economic development level. As the world’s major carbon emitters, NICs are entitled to less, while LDCs should have access to more adaptation funds. This is yet another reflection of symmetrical responsibility.

#### *D. The Conversion Rates of Adaptation Fund to QELRC’s*

It is worth noting that schemes alone are insufficient to improve levels of emission reduction. Instead, the critical factor is the conversion rates of adaptation funds to QELRC’s under the following two schemes.

When the conversion rate of the “cut-or-fund” scheme is equal to that of the “cut-and-fund” scheme, the bridging mechanism can only encourage developed countries to make financial contributions to climate funds, with just marginal or no effect on the level of emission reduction. When the conversion rate of the “cut-or-fund” scheme is higher than that of the “cut-and-fund” scheme, however, it might contribute for lowering the emission reduction level. Assuming, for example, that funds/QELRC’s conversion rates are set by both schemes at 1:1 ratio. It means that one thousand tons voluntary reduction of GHG emission in developing countries

<sup>87</sup> M. Geck et al., *Breaking the Impasse: Towards a New Regime for International Climate Governance*, 13 CLIMATE POL’Y 777-84 (2013), available at <http://centaur.reading.ac.uk/33204>. See also N. Höhne, M. den Elzen & M. Weiss, *Common but differentiated convergence (CDC): a new conceptual approach to long-term climate policy*, 6 CLIMATE POL’Y 181-99 (2006), available at <https://ethree.com/downloads/Climate%20Change%20Readings/International%20Climate%20Policy/Hohne%20-%20Common%20but%20differentiated%20convergence.pdf> (all last visited on Apr. 8, 2016).

can be exchanged for USD one million in adaptation funding; USD one million financial contribution of developed countries can be exchanged for one thousand tons extra emission of GHG. In this case, the bridging mechanism would not contribute to improving emission reduction on a global level, as each ton of voluntary reduction in developing countries represents one ton of additional GHG emission in developed countries. The only benefit of developing countries gained by adopting this mechanism is to have access to more adaptation funding.

Taking further for example that funds/QELRC's conversion rates are set by the "cut-and-fund" and "cut-or-fund" scheme at 1:1 and 2:1 ratios, respectively. It means that one thousand tons voluntary reduction of GHG emission in developing countries can be exchanged for USD one million adaptation funding; USD two million financial contribution of developed countries can be exchanged for one thousand tons extra emission of GHG. Then, the total reduction of GHG emissions will be enhanced significantly, as developing countries will reduce two tons of GHG emissions for every one ton of extra emissions in developed countries. Consequently, there is a net increase (one ton) in the total reduction.

To prevent the total reduction from declining, the conversion rate under "cut-or-fund" scheme should not be less than that under the "cut-and-fund" scheme. In addition, the climate negotiation might set different conversion rates for NIC's, LDC's, and other developing countries to reflect the symmetrical responsibility corresponding to their ability.

## 5. Conclusion

As the cornerstones of the climate change regime, adaptation and mitigation are complementary for addressing the long-term challenges related to climate change. Because the current climate regime is composed of several independent systems, however, the result would be rather a limited adaptation and mitigation regime, further diluting any responsive efforts. To achieve more efficient responses to climate issues, it is urgently needed to integrate adaptation and mitigation on a regime level.

Since its adoption at the Rio Declaration, the CBDR principle has been playing an essential role in shaping the climate change regime. The Paris Agreement invokes the CBDR principle four times.<sup>88</sup> Unfortunately, the overemphasis placed on 'differential

<sup>88</sup> *Supra* note 11.

treatment' in practice has caused conflicts of interest between developing and developed countries, which could have otherwise been prevented. It would further fragment the international society into various communities of interests. Climate change initiative should be implemented by collective action at the global scale.<sup>89</sup> Effective responses may not be achieved if States advance their own interests independently. "Common and Symmetrical Responsibility," having evolved from CBDR, would propose a new climate legal order based on general participation, interest linkage, and proportionate responsibility. This new understanding of CBDR is more aligned with the contemporary world having diverse interests.

Based upon the principle of common and symmetrical responsibility, the bridging mechanism aims at creating an overarching climate change strategy at both the regime and the subject level by synthesizing the demands of developing and developed nations.

Up to now, a number of similar climate mechanisms have synthesized the demands of developing and developed countries or connected adaptation with mitigation successfully in specific areas. The bridging mechanism would be sufficiently feasible and efficient, as well.

Another question is 'CDM,' which provides the opportunity to test the "cut-or-fund" scheme. As the only market mechanism under the Kyoto Protocol that is open to developing countries, CDM represents an innovative means by which developing countries are integrated into a forum, aiming at global mitigation efforts and bridging the gap between Annex I Parties' responsibilities and non-Annex I Parties' demands. CDM has demonstrated that carbon financing is a powerful incentive for both developed and developing countries, in order to collaborate to mitigate climate change.<sup>90</sup> This arrangement introduces possible incentives for reciprocity, encouraging the developing countries to enter into more climate-friendly track.<sup>91</sup> Another pioneering climate mechanism is "Reducing Emissions from Deforestation and Forest Degradation" ("REDD"), which sets an example for the "cut-and-fund" scheme. Due to the financial contribution for reducing emissions, heavily forested developing countries have stronger incentives to avoid deforestation in their development and poverty reduction strategies without being subject to emissions caps.<sup>92</sup> Both CDM and REDD provide the access to addressing conflicts

<sup>89</sup> *Supra* note 1.

<sup>90</sup> M. Brown, *Limiting Corrupt Incentives in a Global REDD Regime*, 37 *ECOLOGY L. Q.* 237-68 (2010).

<sup>91</sup> M. Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 *UCLA L. REV.* 1759-804 (2007-2008).

<sup>92</sup> P. Venning, *REDD at the Convergence of the Environment and Development Debates - International Incentives for*

of interest between developing and developed countries, as well as strike a balance between international climate responsibilities and socio-economic development. International environmental questions will be solved through partnerships among all countries and all actors.<sup>93</sup>

*National Action on Avoided Deforestation*, 6 L. ENV'T & DEV. J. 98 (2010), available at <http://www.lead-journal.org/content/10082.pdf> (last visited on Apr. 8, 2016).

<sup>93</sup> *Supra* note 17, at 115.

