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From Rio to Copenhagen: multilateral agreements, disagreements and situated actions

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Governing climate change is arguably one of the most complex problems, environmental or otherwise, that the global community has had to contend with. There are at least five key factors that together produce this complexity. Firstly, despite dramatic advances since the first IPCC report in 1990, scientific uncertainty remains over the precise magnitude of future climate changes and the consequences of these changes (IPCC 2007). Secondly, the causes and effects of climate change are global in nature, thus the entire global community needs to be engaged in the search for credible solutions. Thirdly, the relative contributions of different countries and regions vary widely as do the impacts of climate change. Critically, the worst effects of climate change will be felt largely in those countries least responsible (at least historically) and least able to cope with them. Fourthly, the production of greenhouse gases is inherently linked to a wide variety of human activities and is embedded particularly in activities considered vital to economic growth and national security. Lastly, the impacts of climate change are long-term. This raises the problem of attribution but also means that the consequences of the decisions made in climate policy today will mostly be borne by future generations who have no way of taking part in current decision making processes. Given these scientific, political and moral complexities, it is little wonder that there are large variations in the views of different countries on the optimum way to deal with the challenge.

On top of these issues is the fact that there have been dramatic shifts in the global political and economic dynamics since the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992. Perhaps the most significant of these are the onset of the global economic crisis in 2007, and the emergence of the new group of economic powers, namely China, India, Brazil, Mexico, South Africa and Indonesia, which now challenge the dominance of the US and Western Europe in crafting regimes of governance. One obvious implication of these shifts is that some of the architecture and nomenclature around which the original UNFCCC was constructed are no longer applicable to the reality of today's world. The unprecedented challenges posed by climate change within the context of the dynamic and anarchical nature of international politics require that a successful regime of global climate governance must be characterized by innovations that address and temper competing interests and political imperatives.

This chapter highlights the innovations in governance that have characterized the global climate change regime as it sought to respond to and manage these complexities, political imperatives and competing interests. We suggest that the key contestations and innovations within climate governance can be understood in terms of four themes/questions: (i) Who should take responsibility or how to allocate responsibility for climate change? (ii) Who has the power/authority to act or participate in decision making? (iii) What are the best approaches in terms of policy tools and institutions for tackling the challenge? And (iv) how should effort between mitigation and adaptation be divided? The rest of the chapter considers these questions, respectively. This is followed by a brief discussion and conclusion.

The quest for justice and equity within the regime

Contestations over responsibility and justice have been a central feature of climate change negotiations from the UNFCCC's inception in Rio, through Copenhagen, to Cancun. Perhaps no issue in the regime has been as divisive as how to allocate responsibility for the causation of, and solutions to climate change. There remain two different stances on this issue, split broadly between developed and developing countries. In preparing for the Rio Convention in 1992, developing countries saw climate change negotiations as an opportunity to address issues of injustice and inequity in the global economic system (Dasgupta 1994). They argued that since developed nations are both historically responsible for, and have benefited hugely from, the various processes that have caused climate change; it is only fair that the burden of action should lie with the industrialized countries. What's more, given that climate change will impose new constraints on the development trajectory of the Third World countries, they have continued to maintain strongly that an equitable climate regime warrants North-South compensation through financial and technology transfers and contributions to capacity building.

Developed countries, on the other hand, pointed out that whilst they are indeed historically responsible for a large amount of the greenhouse gas emissions; these were produced at a time when the consequences were not well known. They argued further that it is unjust to hold today's generation responsible for the actions of the past generations. In addition, given that the high population growth and industrialization of the large developing countries means that the balance of emissions is changing (den Elzen et al. 2005); the West now strongly insists that it would be worthless from the point of view of

stabilising global emissions to allow the large developing countries to be exempt from emissions reductions.

The most notable innovation constructed to mediate between these competing narratives within the regime was the concept of ‘Common but Differentiated Responsibilities’ (CDR). Though woolly and imprecise, the concept appeared to incorporate the sentiments of both the developed and developing nations, thus helping to keep the two blocs of countries at the negotiating table long enough to agree on the UNFCCC, in 1992. CDR has remained a central component of the climate change negotiations, at least through the 16th Conference of Parties (COP) at Cancun. In addition to CDR, there have also been many other equity concepts, ideas and policy innovations within the regime that have served to define the new political and social-ecological relations implicated in the global governance of climate change. These include the notions of per capita emission, historic responsibility, technology transfer, new and additional funding, capacity building, the clean development mechanism (CDM), the division of countries into Annex I and non-Annex I countries, and the subsequent exemption of developing countries from quantified emission reduction targets in the Kyoto protocol.

While these terms remain regular features of climate negotiations and official texts, their exact meaning and the policies they should engender have been subject to intense debate, multiple interpretations and controversy. Take CDR, for example. Developed countries view this concept in terms of aid or assistance: as recognition of the fact that they have greater financial and technological *capabilities*, and as such, have a greater *ability* to deal with climate change. Critically, CDR is interpreted in terms of greater

ability rather than obligation (Harris 1999 and Okereke 2008). Developing countries, on the other hand, see CDR as endorsement of the idea of global equity and the notion that distributive justice should be the cornerstone for international climate policy (Anand 2004). The view is held that developed countries are obligated not only to reduce emissions but also to make substantial transfers of resources to assist poor countries (Okereke 2010). This difference in interpretation has manifested in deep wrangling over nearly all policy and institutions crafted to deal with climate change since Rio 1992.

As this is being written, negotiations are focusing on what will happen when the first commitment period of the Kyoto Protocol ends in 2012. It is unlikely that developed nations will agree to a second commitment period of emissions reductions without the involvement of developing countries (Bodansky 2010). Russia and Japan have categorically stated that they will not be signing up to a second commitment phase of the Kyoto Protocol and developing countries have responded with equal force arguing that they will resist any attempt by the developed countries to 'kill' Kyoto and the CDR concept. However, if developed countries do not renew their commitment to emissions reductions, even while developing countries are being asked to take more responsibility for theirs, it will seem like a move away from the CDR principle (Rajamani 2010).

At COP15 in Copenhagen in 2009, an Accord bearing that city's name was produced. On the basis of this Accord, a total of 76 emission targets were submitted by both developed and developing countries (Rajamani 2010). The Accord and submissions, given a formal status under the UNFCCC process at COP 16 in Cancun, mark the first occasion when the rapidly emerging economies and the US have put forward mitigation actions and have accepted any type of internationalization of their climate change

policies. In addition, it is the first time that the emerging economy countries, such as the BASIC countries (Brazil, South Africa, India and China), agreed to any international consultation or analysis concerning their emissions reduction actions (Bodansky 2010). Interestingly, while these Agreements included targets from both developed and developing nations, they still maintain the language of CDR. The new understanding appears to be that the emissions reductions agreed to by developing countries are voluntary. Regardless, the fact that the larger developing countries in particular have taken on emission reduction targets reflects changes in global climate political dynamics, including acceptance of a radical redefinition of the concept of CDR and movement away from the principle of global climate justice.

It is not only the larger developing countries that are undertaking mitigation actions. Outside of the UNFCCC, a group of highly vulnerable developing nation has formed the V11 – the Climate Vulnerable Forum – consisting of Bangladesh, Barbados, Bhutan, Ghana, Kenya, Kiribati, the Maldives, Nepal, Rwanda, Tanzania, and Vietnam. The group was formed in 2009, to show ‘moral leadership’ in beginning to ‘green’ their economies in order to achieve carbon neutrality (V11 2009). These actions may reflect many nations' increasing understanding and acceptance of the growing scientific knowledge on the effects on climate change. In addition, it indicates a frustration with the ‘deadlock’ that has resulted from the debilitating focus to date on CDR and the North-South divide in climate negotiations. These changes may also reflect a shift in political attitudes towards climate change: acting on climate change is often seen now as being in a country’s interest, rather than hindering economic growth (Townshend et al. 2011).

In sum, it is probably fair to suggest that the concept of global climate justice is losing its original appeal and that the notion of responsibility has shifted in ways that appear to privilege the developed countries. The move in recent years towards actions at a national level, or what some call the ‘bottom-up’ approach (Dubash 2009), means that, while they continue to be bandied about, it is not clear now if concepts like historical debt and per capita emissions will ever lead to significant North-South transfers. In addition, with developing countries now submitting national mitigation action plans to the UNFCCC, it may only be a matter of time before these plans are converted into soft obligations and conditions for accessing climate finance. More broadly, the failure of equity to gain serious traction within the global climate regime despite the glaring issues of responsibility implicated by climate change raises serious questions about the normative dimensions of international co-operation and in particular the prospects of global regimes of governance to serve as medium for international distributive justice (Barrett 2003 and Helm 2008).

The problem of delineating agency, scale and authority

Next in importance to responsibility in international climate negotiations is the issue of agency and action on climate change. Here, we refer to questions about: Who has the authority to negotiate and act on climate change? How can participation be made more inclusive? And at what scale should the search for climate action be concentrated?

Given the global nature of the problem, the international regime has been the main forum for negotiating action on climate change. From the beginning, the regime approach has been decidedly state-centric with only states having the legitimacy and the legal status to participate in negotiations and take decisions. The negotiation of the climate

agreement under the umbrella of the United Nations and the adaptation of the 'one nation, one vote' rule of the UN were supposed to be procedural innovations designed to address the concern of some weak states for equal voice. However this quest for inclusivity has never quite been realized despite the innovations. Rather, despite the 'one nation, one vote' policy, international negotiations over binding emissions have been dominated by the most powerful players, notably the US and the European Community (EC). In addition, the focus on mitigation in the initial establishment of the international regime resulted in a lower level of involvement from countries with low emission levels. The majority of developing countries had little to do with the formation of the Kyoto Protocol, in the course of which OECD countries bargained with each other over their agreed allocations (Roberts 2007).

With increasing awareness of climate impact, developing countries have sought to increase their voice and impact rule-making processes. But, severely hamstrung by lack of technical capacity and financial resources, those countries have remained unable to send enough delegates to conventions. For example, it has been reported that at COP6 the US brought 99 formal delegates and the EC brought 76, while many small island and African states were represented by one-, two- or three-person delegations at the most (Roberts 2007).

Regardless of the number of delegates a state sends, a serious issue for discussion has been whether the state can or should represent all subnational actors. Many have alluded to what is often called 'participation deficit' in the climate regime, in that actors involved in implementing the regime often were not involved in negotiating the rules (Bäckstrand 2008; Bulkeley & Betsill 2005). The clearest example of this is the United

States. In the US, though actions and commitments at a national level have been minimal, policies have been implemented at a regional level to reduce carbon emissions. The prime example is the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade program to reduce carbon dioxide emissions from electricity-generating power plants, in which ten states participate (Hahn 2009). In addition, 23 states are in the process of developing and implementing mandatory regional carbon trading schemes. Many already have energy efficiency standards, renewable portfolio standards and climate plans, an example being California's 2006 Global Warming Solutions Act which aims to reduce state emissions to 1990 levels by 2020 (Hahn 2009). Despite the fact that the thrust of climate action in the US is at state and regional levels, these actors and entities have no official negotiating status within the climate regime.

Another major innovation that has characterized the regime for climate change is the proliferation of transnational agency comprising subnational and community-level groups. The involvement of subnational actors, mainly cities and state/ provincial governments, as noted, has been largely instigated, on the one hand, by the lack of progress in international and national action on climate change, notably the refusal of the US to sign up to the Kyoto Protocol; and on the other hand, by the determination of a number of state governors and mayors to take action. The World Mayors Council on Climate Change, formed in 2005, is an alliance of committed local government leaders advocating an enhanced recognition and involvement of mayors in multilateral efforts addressing climate change and related issues of global sustainability. As of this writing,

there were over 70 members of the Council, representing a vast network of local governments on every continent working to reduce global greenhouse gas emissions.¹

However, the relationship between these and many similar platforms with the international climate regime remains unclear. But while the involvement of cities and regional governments has raised serious issues of agency, scale and authority (Okereke et al. 2009) it has been the activities of the indigenous community that have caused the greatest political controversy. Indigenous communities have been incensed that while they are prone to the direct impact of climate change policies – especially with regard to forestry and land use – the rules of this regime having been negotiated by national government officials who do not understand or espouse views that reflect their perspectives and concerns. Their agitation eventually led to the indigenous community being allowed to make a representation for the first time at the floor of the COP14 plenary in Poznan, Poland, in 2008. This move appears to confer state status on groups in this sector and raises all sorts of problem regarding legitimacy and authority to negotiate. It is not clear whether or how this precedence will be followed in the future as countries such as Australia that have aboriginal and indigenous communities have fought hard to ensure that the event in Poland is not repeated.

The difficulty faced by the indigenous communities in making their voices heard contrasts sharply with the experience of the business actors who have direct access to national governments and many times are grafted as official members of national delegations. It is evident that business actors have in some cases exploited this ‘special relationship’ with governments to their advantage, even sometimes gaming the regime.

¹ World Mayors Council on Climate Change (2010) ‘Members’ List’, www.worldmayorscouncil.org/members/members-list.html

For example, in the initial phase of the EU's Emissions Trading System (ETS), emissions allocations were handed out for free, allowing many companies to make windfall profits (Hepburn and Stern 2008). However, it is difficult to see how the state authority can avoid the overbearing influence of business actors given the role the latter play as 'on the ground' implementers of the climate rules. In 1997, nations signed up to the Kyoto Protocol and the detailed rules of implementation were decided upon at COP7 in 2001, at Marrakesh. These rules provided for 'flexible mechanisms' such as emissions trading, joint implementation and the Clean Development Mechanism (CDM). The EU ETS allows member nations to reduce emissions through limiting the amount of carbon individual companies can emit. The CDM allows companies to invest in emission-reduction projects in developing countries in order to earn Certified Emission Reduction (CER) credits, each equivalent to one tonne of CO₂. These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol. In essence, such flexible mechanisms mean that the private sector occupies an important platform in the bid to achieve global and state emissions reductions targets. In fact given the private sector's central role in implementing the climate regime, it may be argued that the World Business Council for Sustainable Development and other global business bodies also need elevated status in the international climate negotiating arena.

But, while states like to explain the huge involvement the private sector on the basis of the efficiency and innovation of enterprise, most industrial sectors have both historically and currently depended on high levels of emissions of largely unregulated greenhouse gas to thrive. The concern this creates is that the success of key instruments

for emission reduction appears to depend on the very actors who ordinarily should have the incentive to undermine these instruments. In the light of the huge resources committed to EU ETS – by far the single largest carbon trading scheme – with little emission reduction and given the windfall profits which accrued to companies in the first phase of trading (Helm 2010; Okereke and McDaniels 2012), these concerns appear well founded. Furthermore many have noted that the CDM appears to have provided opportunity for some companies to make money without leading to emission reduction (Hepburn and Stern 2008 and Wittneben 2009). However, companies insist that the major reason why they are hamstrung in taking action is that governments have failed to provide the kind of regulatory certainty required to make massive investments (Blyth et al. 2007). For their part, governments have tended to accuse companies of hypocrisy and ambivalence. The charge is that companies often purport to be supporting strong action for climate while at the same time undermining efforts at stringent climate regulations (Blyth et al. 2007), the most obvious examples being the lobby seeking to undermine the science of climate change in the USA or the coal lobby in Australia. It remains to be seen what innovations might be engineered to navigate the obvious inherent tensions this approach poses.

Important negotiations at recent COPs have addressed how corporate actors may be best mobilized to take action on climate change and how this would relate to the setting of targets and taking of actions by nation states. These discussions are most critical with respect to the provision of finance for climate mitigation and adaptation, design of rules for enhancing private investment in clean technology, potential use of trade rules, and dealing with the issue of intellectual property rights to facilitate technology diffusion.

Lastly, growing public awareness of climate change has increased the amount of action taken at an individual level. In the UK, charity sector campaigns such as the 10:10 campaign, which aimed to reduce UK emissions by 10% by 2010, have involved individuals, companies and public sector organizations. In addition, whilst the actual role of civil society in influencing the negotiations is unclear, it has been suggested that the unprecedented public attention focused on COP15 at Copenhagen – led by civil society organizations and environmental NGOs – resulted in an increase in the number of climate-related policies made by governments (Jackson and McGoldrick 2010). Arguably, the process of negotiations on climate change by nation-states in the UNFCCC forum has produced very few results in terms of mitigation. The failure of the Copenhagen conference to produce a legally-binding agreement in particular led some to question the UNFCCC as a forum for decision making. Despite this, though actions by individuals and businesses can produce results, the scale of emissions reductions required still necessitates the involvement of the nation-state. A lot of debate has therefore focused on who should lead action on climate change: the green state or the corporate sector.

Selecting the best tools and institutions for tackling climate change

A third major challenge for international climate negotiations and around which much experimentation has taken place concerns selection of the best policy tools and institutions for managing this challenge at both global and national levels. From Rio onwards, many policy and institutional mechanisms have been canvassed and a variety of ideas have been discussed. One of the most drastic to be proposed was that of a global governing body resembling a world government. This idea was put forward at The Hague conference on climate change in 1989 (Bodansky 1994). This governing body or

authority would focus on environmental protection. However, the idea of a global government was considered too far-reaching and unworkable. Eventually the discussions came to be based around whether to establish a target-based protocol or a framework convention without targets and timetables. The discussions were largely between the US and the EC – the latter led mostly by Germany, the Netherlands and Denmark (Depledge 2005). The stance of the US was based upon the argument that the scientific uncertainties surrounding climate change meant that a target-based approach was unwarranted (Bodansky 1994). The suggestion, instead, was that a more cautious approach should be taken, allowing for a greater understanding of the economic and social consequences of various options before solid targets were agreed. The EC, however, pushed hard for targets and timetables for emissions reductions to be set within the convention for all developed countries. Their key argument was that scientific uncertainty was not enough reason for inaction and that the precautionary principle should apply. A few EC members even agreed to unilateral targets for emissions reductions before the negotiations (Depledge 2005).

The developing countries were divided on this issue, with various blocs expressing different viewpoints. On the one hand, the Small Island States and others particularly vulnerable to climate change impacts were keen to see a binding agreement with emissions reduction targets and timetables in place. On the other, the oil producing and exporting countries (e.g. many OPEC members) did not wish to have an agreement that could lead to a tax or price being put on carbon that could have potential effects upon their economies. The latter countries therefore preferred a weak climate change regime or none at all (Okereke 2010).

In the end, the UNFCCC, with mention only of a desire to cut emissions, resembled the kind of instrument that the US had been pushing for. This was largely because the EC countries did not want to proceed with an agreement without the US. Eventually, though, the EC did succeed in getting the UNFCCC Parties to agree the Kyoto Protocol, with targets and timetables, despite strong opposition from the US (Okereke 2010). The merits and limitations of Kyoto have been subject to great discussion. Some criticise the regime for being too top down, wasteful and ineffective as a means of tackling climate change (Prins and Rayner 2007; Victor 2001). But many others defend the regime and arguing that it played a major role in mobilizing international effort and providing a framework for serious action in combating climate change (Müller et al. 2009).

With the Kyoto Protocol expiring in 2012, the type of agreement that will be used after the end of its first commitment period has been a huge talking point. Negotiations have proceeded along two tracks. The first – the Ad hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) – began in 2005 and has focused on negotiating improvements to the Kyoto Protocol and emissions targets for developed countries, post-2012. This would not affect the US since it did not commit to reducing emissions for the first commitment period. The second track began in 2007, launched by the Bali Action Plan to work on an ‘agreed outcome’ under the UNFCCC. The second track is known as the Ad hoc Working Group on Long-Term Cooperative Action (AWG-LCA). The AWG-LCA has aimed to develop a comprehensive outcome covering a shared, long-term vision; mitigation commitments from developed countries; nationally appropriate mitigation actions (NAMAs) from developing countries; financial measures; adaptation and technology transfer measures;

and a system for measurement, reporting and verification (MRV). In the negotiations, the sticking point has been on whether and how these two tracks could be brought together, and with what result. In particular, it is not clear whether the outcome for replacing the Kyoto Protocol will be a single agreement, or two separate agreements under a common umbrella regime: one agreement for developing countries and the US; the second for other developed countries. Developing countries favour two separate agreements while developed countries are pushing for a single agreement.

While discussions are continuing as this is being written, indications from the Copenhagen Accord and the Cancun Agreements are that states are moving away from internationally prescribed targets towards domestically decided emissions reductions. The political stumbling blocks at the international level remain too much to be overcome in terms of negotiating emissions targets and timetables. It seems that the domestically defined emissions targets submitted to the Copenhagen Accord and integrated into the UNFCCC process in the Cancun Agreements may be the primary way forward in terms of emission reductions, as a stalemate has been reached in the negotiations over what the next commitment phase of the Kyoto Protocol will look like (Grubb 2010). The main problem is that the 'pledge and review' approach does not come close to anything near what climate scientists say needs to be done to avert catastrophic climate change. Besides, but related to the question of the nature of the overarching regime or framework within which the international community should address the problem, are questions about policy instruments and institutions for driving down greenhouse gas emissions, raising and managing climate finance, and for facilitating technology transfer and diffusion.

In terms of policy instruments, the key debate had been between national and (possibly) global carbon taxes, on the one hand, and cap and trade of carbon emissions, on the other hand. In the run up to the negotiation of UNFCCC in Rio, Europe had strong preference for national- and continental-based carbon taxes. Many developing countries (excluding the OPEC countries) supported this view and wanted, in addition, a global tax possibly on fossil fuel and/or on international aviation. The US was strongly opposed to carbon tax under any guise, however, and fiercely advocated for ‘market-based solutions’, in the form of cap and trade. The argument was that a carbon tax would be far too rigid and inefficient as a means in tackling climate change. Cap and trade, in contrast, was projected as flexible and allowing action on climate change to occur without hindering economic growth. By not controlling specifically where and how emissions are reduced, the cap and trade system was offered as the cheapest method of reducing emissions and the necessary condition for bringing the US on board to an extended Kyoto agreement. In addition, use of emissions trading schemes was seen as the best way of encouraging private sector investment in low-carbon technologies, which in turn would lower the cost of emissions reductions in the long run.

Persuaded by the US, the EU did support (albeit reluctantly) cap and trade as a key instrument for addressing global climate change. Following the initial adoption of Kyoto, the EU invested massively in establishing a trading scheme – the largest and most ambitious ever continental emissions trading system (Helm 2010). Other trading schemes include the New Zealand emissions trading scheme (launched July 2010); the north-eastern U.S. states' Regional Greenhouse Gas Initiative (RGGI) cap and trade scheme (launched January 2009); and the Tokyo metropolitan trading scheme (launched April

2010). Together these schemes were worth about USD 135 billion dollars at the time of this writing. In 2009, the US House of Representatives narrowly passed a climate bill which sought to establish a national trading scheme, but that bill stalled in the US Senate. The huge investment in and accrued financial value of these schemes notwithstanding, it is not clear that such market mechanisms do in fact lead to significant emissions reductions. Moreover, many developing countries have argued that the use of market mechanisms to tackle climate change as preferred vehicle for North-South transfer creates a loophole for industrialized countries to avoid their obligation to provide required assistance to developing countries.

Another serious issue related to the carbon tax vs. cap and trade argument is the design of institutions that could be used for financing climate adaptation measures in, and facilitating transfer of resources to, developing countries. Here, again, a number of ideas have jostled for recognition and supremacy from Rio to Cancun. A series of proposals have revolved around the idea of a global fund that would provide resources for action on climate change and would facilitate this resource transfer from developed countries to developing. Potential sources of funding included a tax or levy on fossil fuel consumption in industrialized countries, a global carbon tax on stamp, or a percentage of a country's gross national product. These suggestions were largely mooted by the developing nations and were linked to the concept of historical responsibility for climate change with the suggestion that nations' contributions to the fund could be linked to their historical responsibility (Okereke and Schroeder 2009). Developing countries did in fact win a few concessions when the Special Climate Fund (SCF) was established to help fund adaption in the least developed countries, but this was clearly branded an experiment by the

industrialized countries. As the climate change negotiations developed however, and especially with the onset of global economic recession, these suggestions were increasingly opposed by the developed world. Developed countries have long favoured an approach that relies more on the market and private-sector-led investment to generate climate finance.

The Adaptation Fund was one of the innovations that served to bridge the commitment of the industrialized countries to market-generated finance and the developing countries' need for predictable funding. The new instrument was established to finance specific adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. The Adaptation Fund was designed to get its resources from a 2 per cent levy on Certified Emission Reduction credits generated from projects carried out under the CDM. The CDM projects, as noted, are carried out largely by the private sector; as such, the Adaptation Fund comes close to a private sector tax. This innovative design for sourcing climate adaptation financing is similar to that proposed by many developing countries at the beginning of international climate negotiations.

Developing countries' sustained push for large-scale and predictable funding resulted in the establishment of the Green Climate Fund at Cancun, first proposed at COP 15 in Copenhagen. Developed nations were to provide \$30 billion during the period, 2010-12, increasing to a total of \$100 billion by 2020. Individual developed countries pledged sums to this total amount. This money is to be 'new and additional' to that already given to the developing nations in aid. This mode of financing leaves concerns about the extent to which developed countries in fact will meet the amounts that they

have pledged, a concern that perhaps would be less likely to occur if the finance were to come from a fossil fuel levy or tax. Already there have been claims that the money put forward by some developing countries cannot be classified as 'new and additional' but instead is redirected aid from other parts of the national budget (Liverman and Billett 2010). The recipients of this fund are to be the 'poor developing countries'. This definition represents the changing global dynamics since the initial discussions of a fund of this type and makes a distinction between the poorest developing countries and emerging economies such as the BASIC countries.

Discussions over the type of finance mechanisms used to support systems to reduce emissions from deforestation and forest degradation (REDD) took place at COP 15 and 16. Debates again largely split between developed countries supporting market mechanisms and developing countries pushing for a fund. As of the time of this writing, negotiations were leaning towards market-based mechanisms, as the private sector's involvement is likely required due to the sizeable funding needed. Decisions on this matter were to have been made at COP 17 in Durban.

It is likely that the two funding mechanisms will continue side by side. One threat to the 'market mechanisms' approach is the lack of an agreement on what will happen after the first commitment phase of the Kyoto Protocol ends in December 2012. Continuation of the CDM requires an extended agreement. On the other hand, the EU ETS likely will survive, as a large amount of political capital and time has been put into its formation and its negotiators will not let it go lightly. In addition ETS has been highly profitable for those who have participated in emissions trading, even while debates continue about its actual contributions to reductions in emissions.

The false divide between mitigation and adaptation

It is now widely accepted that both mitigation and adaptation are necessary to deal with climate change. The relative emphasis on each has varied over time. Initially, negotiations focused almost solely on mitigation. As discussed above, early negotiations centred on debates between the US and EU over quantified emission reduction commitments. Mitigation targets are a key component of both the UNFCCC and the Kyoto Protocol. The focus on mitigation occurred to such an extent that some observers commented that adaptation seemed a ‘taboo subject’ due to an apparent fear that greater focus on this issue would lessen efforts to reduce emissions (Pielke et al. 2007). Developing countries however made a big push to recognise adaptation, in COP 7 in Marrakesh.

The heavy focus on mitigation has now shifted, representing one of the most notable changes in the discourse of global climate negotiation. There has been a realization that even if deep cuts in emissions were achieved; there would still likely be a rise in temperature that would require adaptation measures to be taken. In fact many developing countries claim that climate change is already having devastating impacts on their population and severely threatening their development. As with much of climate change negotiations, there has been a North/ South divide on the subject and tensions have been high. One issue that has complicated the debate in recent years is that developed countries now wish to differentiate between the poorest developing countries and the larger industrialising countries which are quickly becoming their economic competitors. Developed countries not only want these countries to make their own emissions reduction targets and commitments, but also do not want to support their

competitors by financing adaptation projects or transferring new technologies to them (Okereke 2010).

Another factor that has hindered action on adaptation is scientific uncertainty on the precise nature of the climate changes in specific locations, particularly on a small-scale. It is difficult to adapt when you don't know what you are adapting to (Yamin, and Nentjes 2001). In addition, there are difficulties in determining what problems are caused by climate change and what would have occurred anyway. Developing countries have been instrumental in pushing adaptation back to the forefront of the debate (Depledge 2005; Jackson and McGoldrick 2010). A higher focus on adaptation can be traced back to the COP at Marrakech in 2001. Since then, adaptation has become a much greater focus of the negotiations, to the extent that the Nairobi COP in 2006 was unofficially named the adaptation conference (Depledge 2005). In Montreal at the COP 11 in 2005, the developing countries negotiated for the establishment of a Work Programme on Adaptation and an Adaptation Fund. These were designed to help a variety of adaptation measures in developing countries. The Green Climate Fund – proposed at COP15 in Copenhagen – was to be split between mitigation and adaptation.

Looking ahead

There have been a variety of innovations within the global climate change regime as it sought to deal with the unprecedented and complex challenges posed by anthropogenic global warming. The concept of Common but Differentiated Responsibilities (CDR) has been present at every stage of the negotiations; how it is conceived and interpreted now is undergoing a sea change. The notions of who has agency in negotiations and who has authority to act on climate change also have varied

over time. While nation-states have largely dominated the international negotiations, this dominance has been increasingly challenged by the private sector, civil society and indigenous communities. Negotiations over climate change have indeed highlighted the fragmented and contested nature of power, authority and agency at both national and international levels. With the fragmentation of agency and authority has come a variety of mechanisms for dealing with climate change – including global targets, carbon taxes, CDM cap and trade, and voluntary carbon offset schemes.

Given that the sum of these efforts still falls short of what scientists calculate is needed to avert dangerous climate change, the greatest need facing the climate regime is development of a series of innovations that together will achieve scale-up and establish regime effectiveness. The challenge is now even more daunting because global effort no longer can concentrate solely on mitigation but now must focus also on how to adapt to unavoidable climate change, by far the more urgent concern for developing nations. All of this is highly complicated by the heightened suspicion and distrust that characterise international climate negotiations following, on the one hand, many decades of failed promises by the North, and on the other hand, the increasing political and economic power of BASIC countries, especially China and India. The outcome of the Conference of Parties in Copenhagen, which saw an Accord negotiated by the BASIC countries and the US, with the EC and the rest of the world playing little role, may indeed indicate that the geopolitics of climate change and international environmental cooperation is changing for good.

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