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Different Perspectives on Differentiated Responsibilities

A State-of-the-Art Review of the Notion of Common but Differentiated Responsibilities in International Negotiations

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Abstract

Anthropogenic climate change is a formidable global challenge. Yet countries' contributions to global greenhouse gas emissions and the climate change impacts they face are poles apart. These differences, as well as countries' different capacities and development levels, have been internationally acknowledged by including the notion of Common But Differentiated Responsibilities (CBDR) and Respective Capabilities under the 1992 United Nations Framework Convention on Climate Change (UNFCCC).

The logic of CBDR was paramount in enabling negotiators to agree on an international legal framework for climate policy in the 1990s. Quite paradoxically, however, it has since proved to be a major obstacle in negotiating a universal new climate agreement, now envisioned for 2015 under the UNFCCC's "Durban Platform". The UNFCCC's original dichotomous differentiation between "Annex I" parties (basically comprising "industrialised countries") and "Non-Annex I" parties (i.e. developing countries) reflects neither scientific knowledge nor current political realities. The system of international climate policy has thus become dysfunctional. In fact, mitigation efforts by industrialised countries alone would be insufficient to avoid dangerous climate change, even if they were far more ambitious than they currently are. The diversification of state groups and country coalitions among developing countries, and the rise of emerging economies such as China and India – now among the world's major greenhouse gas emitters – warrant a critical reconsideration of the conceptualisation and implementation of CBDR. Yet, no progress has been made so far to adequately adjust for the UNFCCC's principled anachronism.

It is against this background that this DIE Discussion Paper presents a state-of-the-art review of the notion of CBDR in international negotiations. It thus aims to identify mechanisms that could contribute to reinvigorating CBDR as a meaningful guiding principle for a 2015 climate agreement under the UNFCCC. To this end, it first considers the normative framing of CBDR and reviews the way CBDR has been conceptualised and interpreted in the academic literature. Second, it scrutinises the way CBDR manifests itself under the UNFCCC and how it explains the Annex I / Non-Annex I dichotomy before it summarises the respective political standpoints of some of the UNFCCC's most important and influential parties (or groups of states). Third, it provides an analysis of the way CBDR or CBDR-like approaches have been put into practice in a variety of international regimes and policy arenas, including the World Trade Organization, the Montreal Protocol and the burgeoning debate on universal Sustainable Development Goals. The discussion paper thus brings forward different approaches for the attribution of emissions, criteria and means that allow for a differentiation of responsibilities for the reduction and limitation of emissions, as well as for mechanisms that facilitate broad participation in the conceptualisation and implementation of CBDR. It concludes that a flexible implementation of CBDR is needed to take into account the multiplication of country coalitions among developing countries and the rise of emerging economies. Finally, we argue for a flexible regime that would include differentiation of state groups beyond the Annex I / Non-Annex I dichotomy, with graduation and exclusion mechanisms that are based on a set of transparent, measurable and verifiable indicators of development, emissions and capacities.

Acknowledgements

This paper has greatly benefited from discussions at various fora of international climate policy – including the UNFCCC's COP 19 in Warsaw in November 2013 – and the feedback of numerous colleagues, both inside and outside the German Development Institute. For substantive comments and thoughtful reviews, we are particularly obliged to Harro van Asselt, Paula Castro, Ines Dombrowsky, Imme Scholz, Rixa Schwarz and Lindsay Stringer. We also would like to thank Cornelia Hornschild for editorial support. Any remaining shortcomings and flaws are solely the responsibility of the authors. Research funding by the German Federal Ministry for Economic Cooperation and Development (BMZ) under its beacon project "Climate Change and Development" is gratefully acknowledged.

A note to the reader

This discussion paper addresses policy-makers and stakeholders in the public policy discourse on climate change as much as it engages with the more academic debates on common but differentiated responsibilities in a changing world of states. It follows a simple and straightforward structure that is deliberately composed of loose building blocks that may be read separately as well as in sequence. We hope this will allow for quick reading and easy reference. Following the introduction, chapter 2 describes the normative origins and conceptual framing of CBDR. Chapter 3 captures the evolution of CBDR under the UNFCCC, as well as the political positions of individual parties (or groups of parties). Chapter 4 reviews alternative manifestations of CBDR in other international regimes and contexts. Lastly, chapter 5 synthesises the insights of this discussion paper. Although most chapters and subsections can be read independently, many cross-references and a set of summarising tables highlight the contextual inter-linkages that provide for a bigger picture.

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Abbreviations

ABS	Access and Benefit-Sharing
ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AOSIS	Alliance of Small Island States
BASIC	Brazil, South Africa, India, China
BAU	Business as Usual
CAN	Climate Action Network
CBD	Convention on Biological Diversity
CBDR	Common But Differentiated Responsibilities
CBDR-RC	Common But Differentiated Responsibilities and Respective Capabilities
CFC	Chlorofluorocarbon
COP	Conference of the Parties
EC JRC	European Commission Joint Research Centre
EEA	European Environmental Agency
EPA	Environmental Protection Agency
ETS	Emissions Trading Scheme
EU	European Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GDR	Greenhouse Development Rights
GEF	Global Environmental Facility
GHG	Greenhouse Gas
HDI	Human Development Index
ICAO	International Civil Aviation Organization
ICTSD	International Centre for Trade and Sustainable Development
IEA	International Energy Agency
IISD	International Institute for Sustainable Development
IMERS	International Maritime Emission Reduction Scheme
IMO	International Maritime Organisation
INPE	National Institute for Space Research / Instituto Nacional de Pesquisas Espaciais
IPCC	Intergovernmental Panel on Climate Change
LDC	Least-developed Country
LULUCF	Land Use, Land Use Change and Forestry
MBM	Market-based Mechanism
MDG	Millennium Development Goal
MEA	Millennium Ecosystem Assessment
OECD	Organisation for Economic Co-operation and Development
OWG	Open Working Group
QELRO	Quantified Emission Limitation or Reduction Objective
Rio+20	United Nations Conference on Sustainable Development
SDG	Sustainable Development Goal
SDT	Special and Differential Treatment
SIDS	Small Island Developing States
TEEB	The Economics of Ecosystems and Biodiversity

TFWW	The Future We Want
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WBGU	German Advisory Council on Global Change / Wissenschaftlicher Beirat Globale Umweltveränderung
WTO	World Trade Organization

1 Introduction

"All animals are equal, but some are more equal than others."
(George Orwell, *Animal Farm*)

The notion of Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC) is a cardinal notion in the context of international negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). In the complex conundrum of international climate change negotiations, CBDR-RC reflects a lasting political consensus that the widest possible cooperation by all countries is needed to combat climate change and the adverse effects thereof, and that, second, all have a responsibility to act accordingly. However, the word "differentiated" also implies the adoption and implementation of differing commitments for different states while taking into account their diverse circumstances and capacities, their historical contributions to CO_2 emissions and their specific development needs (cf. Honkonen 2009).

Paradoxically, the logic of common but different responsibilities (CBDR)[1] enabled negotiators to agree on a legal framework for international climate policy in the 1990s, yet proved a considerable obstacle to negotiating an adjusted treaty for the post-2012 period. Indeed, CBDR has been a recurrent issue in recent negotiations on both the pre-2020 ambitions and the 2015 global agreement, as envisioned under the UNFCCC's "Durban Platform". Negotiators have to find equitable ways to keep global warming below 2°C, with finance and technology transfer being parts of the deal (e.g. CAN 2013a; BASIC Experts 2011).

To put CBDR into practice under the UNFCCC, responsibilities of parties were initially differentiated on a dichotomous basis that distinguished "Annex I" parties (member states in 1992 belonging to the Organisation for Economic Co-operation and Development (OECD) plus additional states undergoing the process of transition to a market economy) from "Non-Annex I" parties. In essence, this dichotomy reflects the economic welfare of countries – measured in gross domestic product (GDP) per capita – in the immediate wake of the collapse of the Soviet Union. Some 20 years after the climate convention was agreed upon, most developing countries still want CBDR to maintain a clear differentiation between different categories of states. They do have a point. All 65 nations whose emissions paths currently seem to be within the climate-friendly range are poor developing countries (WBGU 2009). From their perspective, forfeiting CBDR would be tantamount to compromising their "right to development" (e.g. Kartha / Athanasiou / Baer 2012, 48). This notwithstanding, developed countries – and the United States in particular – object to CBDR as a legally binding principle and have instead pleaded for increased uniformity in parties' obligations (Deleuil 2012; Harris / Symons 2013).

In any case, the multiplication and diversification of state groups and country coalitions within the broad group of developing countries, and especially the rise of emerging econ-

1 "Common but differentiated responsibilities" is the general principle that scholars and policy-makers usually refer to, and it represents how the notion was first mentioned as a principle in the Rio Declaration in 1992 (see section 2.1). In the UNFCCC, it was stretched to include respective capabilities (hence CBDR-RC) and, although included in the convention's "principles" section, was explicitly not included as a legal principle. In this report, we therefore refer to the notion of CBDR (without RC), unless otherwise stated. See also Box 1 and sections 2.1 and 3.1.

omies – with China and India now being among the world's major greenhouse gas emitters – has called the validity of the initial reading of CBDR into question: the Annex 1 / Non-Annex 1 dichotomy hardly reflects current greenhouse gas (GHG) emission realities. As Parikh and Baruah (2012) show, the emissions of Non-Annex 1 countries increased by 223 per cent between 1990 and 2008, while the already high emissions of Annex I countries have roughly remained the same. However, ever since the UNFCCC was adopted in 1992, no progress has been made to better account for the dynamic diversification of developing countries (Deleuil 2012; Parikh / Baruah 2012; WBGU 2010). The North-South politics that fall together with the Annex I / Non-Annex I dichotomy have since been called "dysfunctional" and "the regime's greatest weakness" (Depledge / Yamin 2009, 443). Some have even suggested that any truly global negotiation is bound to fail *"without a firm, effective and mutually acceptable bedrock definition defining the scope and depth of developing country involvement"* (Walsh et al. 2011, 269). Clearly, the context and extent of this "developing country involvement" is politically contested, and not just among states. As Climate Action Network frames it: *"the need for a dynamic approach to CBDR does not mean that the existing Annexes should be dissolved, but it does mean that they're not the way forward"* (CAN 2013a).

Any move forward is complicated by the persistent vagueness and uncertainties of CBDR in the realm of international law. Accordingly, the core content of the CBDR principle as well as the nature of the obligation it entails remain deeply contested and exacerbate difficulties in the ongoing post-2012 negotiation process (Rajamani 2010; Deleuil 2012).

In this context of a changing world, the need to drastically cut global GHG emissions (see e.g. IPCC 2013), and given the urgent need for the international community to come to terms with an ambitious international climate agreement in time for the UN climate summit in Paris in 2015, this discussion paper explores potential clarifications and uses of CBDR in international climate negotiations. It reviews the definitions of CBDR and their meaning in international negotiations, identifies mechanisms to incorporate differentiated responsibilities in international agreements and tries to open up a debate that looks beyond the existing dichotomy between Annex I and Non-Annex I countries. In doing so, it inevitably focuses on mitigation. This notwithstanding, the authors acknowledge that adaptation as well as the burgeoning issue of "Loss and Damage" are increasingly important and reflected as such at the UN climate negotiations. Indeed, they are manifest responses to the inadequacy of current mitigation efforts.

Against this background, chapter 2 discusses the normative framing of CBDR and reviews the way CBDR is conceptualised and interpreted in the academic literature, notably in international relations and international law. Chapter 3 then scrutinises the way common but differentiated responsibilities manifests itself under the UNFCCC, and provides a list of mechanisms that were proposed by parties, non-governmental stakeholders and academics to put CBDR into practice. It furthermore explains the dichotomy between Annex I and Non-Annex I parties in the light of parties' economic development and historical emissions. Finally, it summarises the corresponding political standpoints of some of the most important and influential parties to the UNFCCC, based on their specific socio-economic circumstances and emission pathways. Chapter 4 continues with an analysis of CBDR or CBDR-like approaches in a variety of international regimes, including those relating to the World Trade Organization (WTO), the United Nations Convention to Combat Desertification (UNCCD) and the Montreal Protocol. Although this cursory exercise

does not provide a rigid comparative analysis, it does provide a number of cues regarding the similarities and differences in the interpretation of "differentiated responsibilities" that co-exist in the international realm. Finally, chapter 5 concludes with an overview of the types of mechanisms that could be applied to differentiate responsibilities in mitigating climate change in spite of the prevalent North-South fault line.

2 Normative framing

This chapter describes the normative perspectives on CBDR in the international relations and international (environmental) law literature. It starts with a section on the origins of CBDR and how the principle became established in international law, followed by an explanation of its underlying principles of fairness and equity.

2.1 Origins of CBDR

The notion of CBDR results *"from the application of equity in general international law"* (Sands et al. 2012, 233). CBDR can be seen as one means to formally integrate environment and development at the international level, and as a way to make one country's commitments more "just" relative to the commitments of other countries – more proportional in other words (Honkonen 2009).

Elements of the CBDR logic can be traced back as far as to calls for a New International Economic Order in the 1970s, the 1972 UN Conference on the Human Environment in Stockholm and the 1979 Enabling Clause[2] of the General Agreement on Tariffs and Trade (GATT) (e.g. Rajamani 2006; Honkonen 2009). Yet, CBDR only evolved as an official international principle during the 1992 United Nations Conference on Environment and Development (UNCED), where it was originally spelt out in Principle 7 of that summit's Rio Declaration (see Box 1). The principle gained particular prominence in the context of negotiations on international climate policy, but is also relevant for other conflicts of interest along the North-South fault line of international politics (see also Deleuil 2012; Harris / Symons 2013).

Prior to the groundbreaking Earth Summit and, indeed, the UNFCCC, international environmental law was largely guided by principles that run counter to CBDR, namely through a strong emphasis on sovereign equality and reciprocity between states (Stalley 2013). As with international environmental law, international environmental policy and corresponding negotiation processes basically built on the 1972 Stockholm Declaration. Its Principle 21 warrants *"states sovereign right to exploit their own resources pursuant to their own environmental policies"* albeit with the caveat *"to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction"* (UNCHE 1972; see also Handl 2012; Sands et al. 2012).

2 The Enabling Clause, officially called the "Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries", was adopted under GATT in 1979. It enables developed country members to give differential and more favourable treatment to developing countries.

Box 1: The principle of common but differentiated responsibility in international law

According to Principle 7 of the Rio Declaration, the principle of CBDR is defined as follows (UNCED 1992):

> *States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.*

Similar language was eventually codified into international law in Article 3.1 of the UN (1992a), which had been negotiated in the run-up to the UNCED, and was subsequently adopted there. Accordingly:

> *The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.*

Regarding the UNFCCC's general *principles,* CBDR was thus expanded to include "respective capabilities". However, the convention's section on *commitments* (i.e. Article 4) does not refer to CBDR, but to *"specific national and regional development priorities, objectives and circumstances,"* which widens the room for interpretation. The UNFCCC's 1997 Kyoto Protocol, in turn, prominently reiterates the UNFCCC text under "commitments" when it mentions CBDR as well as specific national and regional development priorities, objectives and circumstances (Article 10) (see also Sands et al. 2012; Kellersmann 2000).

An emergent CBDR logic became apparent, for instance, in negotiations under the Vienna Convention for the Protection of the Ozone Layer, which has since proved to be a role model for the notion of a framework convention. Negotiations under the Vienna Convention sought internationally binding regulation regarding the emission of ozone-depleting chlorofluorocarbons (CFCs), which resulted in the 1987 Montreal Protocol. Although it does not introduce CBDR as such, it is quite explicit regarding the need to differentiate responsibilities according to capabilities by highlighting *"the circumstances and particular requirements of developing countries"* in its preamble and by relating parties' *"general obligations"* to *"the means at their disposal and their capabilities"* (UNEP 2003 [Vienna Convention, Art. 2.2]). The Montreal Protocol accordingly provides for a number of mechanisms to include a differentiation of responsibilities, such as delayed compliance for developing countries and a special fund to facilitate implementation (UNEP 2003, see also section 4).

CBDR formally evolved as an international principle during the 1992 UNCED in Rio de Janeiro, and is spelt out in Principle 7 of that summit's Rio Declaration (see Box 1). In essence, it recognises the special needs of developing countries, especially in the context of international environmental law. As such, it comprises two core conceptual elements. The first element concerns states' common responsibility for environmental protection at the national, regional and global levels. The second conceptual element concerns the need to take account of differing circumstances, especially in relation to each state's contribution to the creation of a particular environmental problem and its ability to prevent, reduce and control the threat of it (Sands et al. 2012).

Politically, the formal establishment of CBDR was ultimately the result of decades of political action and negotiating efforts by developing countries, with China exerting strong leadership (Stalley 2013; see also Biermann 1998). Arguably, inclusion in the UNFCCC is

its most prominent manifestation. The regime revolving around the UNFCCC has since been shaped by two distinct framings, again building on the Montreal Protocol and the UNCED. First, climate change was framed as an environmental issue, to which pollution control is the answer. Second, climate change was linked to the emergent paradigm of sustainable development, thereby highlighting intra- and intergenerational equity and emphasising the minor contribution of developing countries to current global environmental problems, their limited capacities to deal with them and the prevalence of poverty reduction as their political priority (Depledge / Yamin 2009). Consequently, CBDR-RC was included in the UNFCCC's preamble as follows:

> [T]*he global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions.*

Although this review does not exclusively relate to climate change *mitigation*, CBDR-RC is typically – and often implicitly – related to mitigation (Ciplet / Roberts / Khan 2013). For Annex I parties, an explicit emphasis on adaptation is prohibitive, as it would be considered tantamount to acknowledging responsibility for historical emissions and, hence, liability for corresponding adaptation needs. Indeed, decisions under the UNFCCC show a tendency to circumvent the issue of historical responsibilities: whereas the Rio Declaration clearly refers to historical contributions of developed countries to environmental degradation, a corresponding mention in the UNFCCC's preamble remains the only formal reference in the context of the UNFCCC.[3]

Article 3.1 itself is skewed towards mitigation as it states that *"Parties should protect the climate system* […] *in accordance with their common but differentiated responsibilities and respective capabilities"* and that developed country parties should *"take the lead in combating climate change and the adverse effects thereof"* (UN 1992a, Art. 3.1), even as "adverse effects" point to the need for adaptation, too.

In recognition of the subtleties of international law, it is also noteworthy that Article 3.1 does not refer to CBDR as a legal principle in the narrow sense, even though Article 3 is titled "Principles" (see Box 1; see also Bodansky 1993). As far as international legal scholars are concerned, the article title and the subsequent list of "principles" it entails are thus merely contextualising the convention for the reader. In other words, they are not intended to be obliging in the sense of legal principles (see Honkonen 2009).

This is of particular interest when it comes to the negotiations under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP). The ADP was established during the UNFCCC's Conference of the Parties (COP) 17 in Durban in 2011, and negotiators under the ADP have been tasked (1) to develop a new legal instrument under the convention that is applicable to all parties by 2015 and will come into effect in 2020; and (2) to close the pre-2020 gap in mitigation ambitions. So far, the CBDR principle as such is mentioned neither in the ADP's mandate nor its decisions, although it is acknowledged that the work of the ADP shall be guided by the principles of the convention.

3 See section 3.2 for more background information on historical emissions.

Deleuil's (2012) analysis suggests that the practice of interpreting CBDR is actually changing: while negotiators keep mentioning Article 3 occasionally, they are now seen as commonly referring to more general notions such as equity, national circumstances and specific needs of developing countries. However, Deleuil also argues that clarification of the future place and meaning of CBDR should help to clarify state categories and the corresponding attribution of state obligations. This should, in turn, facilitate compliance and review procedures in the respective treaty bodies and for all parties concerned (Deleuil 2012).

2.2 CBDR's underlying concepts of fairness and equity

Ultimately, CBDR is meant to represent the philosophical notions of fairness and equity in international (climate) policy. Both of these meta-principles have similar philosophical connotations and are often used interchangeably in political discourse, notably at the international level and specifically where divergent interests between "North" and "South" are at stake.[4]

Dellink et al. (2009) accordingly explain CBDR as a policy principle that is derived from equity and fairness as two general overarching concepts (see Figure 1). They highlight two tracks that lead towards CBDR. For the purposes of this discussion paper, we consider these tracks to be complementary rather than mutually exclusive.

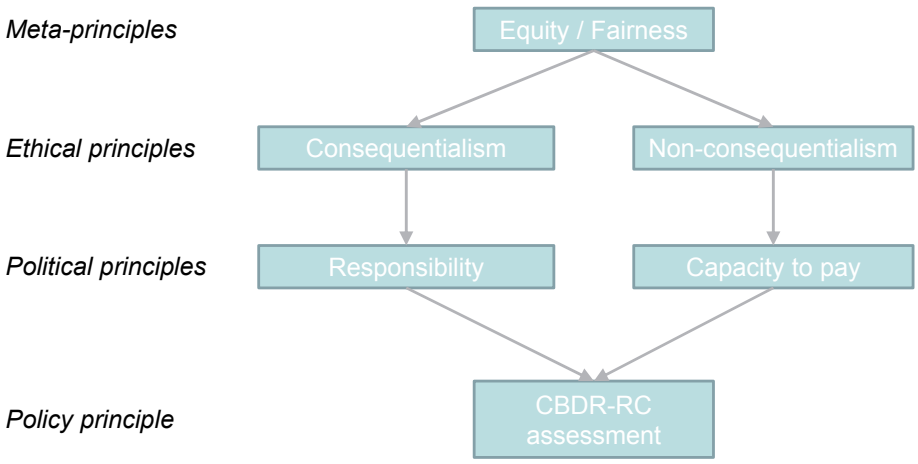
First, on the basis of the ethical principle of consequentialism (i.e. justice as based on *outcomes* of behaviour and decisions), polluters have a responsibility to act. This type of responsibility is part and parcel of many international treaties and expressed through a number of widely accepted policy principles such as:

- ***No harm principle***: the sovereignty of states does not include a right to harm other states;
- ***Polluter pays principle***: the polluter bears the costs of achieving acceptable environmental quality, thereby avoiding harm;
- ***Precautionary principle***: the obligation to avoid irreversible harm to others, even in the absence of scientific certainty about the potential harm.

Second, a non-consequentialist logic of action suggests that the moral quality of a given act – that is, whether it is "right" or "wrong" – derives from the act itself, not from its eventual consequences. The precautionary principle, for instance, epitomises a non-consequentialist position to the extent that a proof of harm (i.e. the consequence of an act) is not required to warrant actions taken to avoid potential harm or to abstain from the potentially harmful act altogether.

4 This is not to say that equity and fairness would be considered synonymous in international climate negotiations. The *Oxford English Dictionary* defines "equity" as *"the quality of being fair and impartial"* and "fairness", that is, the noun corresponding with the adjective "fair", as *"treating people equally without favouritism or discrimination."* For a concise philosophical excursion on equity in the context of CBDR, see Rajamani (2006, 150ff.).

Figure 1: General principles of fairness translated into policy principles



Source: Dellink et al. (2009)

Taking their argument further, Dellink et al. (2009) translate the ethical principle of non-consequentialism into a principle of "capacity to pay". This essentially mirrors the "and respective capabilities" supplement, which was added to the original CBDR principle in order to put responsibilities and capabilities on equal footing. Politically, this reflects developed countries' strong opposition to any reference to their historical emissions, which would, in turn, invoke a strong emphasis on the consequentialist "polluter pays principle" (see section 3.2 and Deleuil 2012). At the same time, it underscores that all countries share the responsibility to adhere to universal principles (such as the precautionary principle), even if they are poor and lack commensurate capacities.

The logic of a "capacity to pay" effectively acknowledges that richer countries should pay more to combat climate change based on a normative principle of solidarity, irrespective of whether there is evidence that they have directly or indirectly caused harm. However, it also implies a cost ceiling, as no country should bear unacceptably high costs (Dellink et al. 2009). This caveat has the potential to gain political importance in view of the current global financial crisis, which has affected the financial capacities of a number of developed countries in particular. This is bound to further strain negotiations under the UNFCCC, as the definition of what is deemed unacceptable is evidently political. Indeed, developing countries might conversely argue that no country should emit unacceptably high amounts of greenhouse gases.

In any case, proponents of a "single hybrid policy principle" (Dellink et al. 2009) of CBDR-RC make a strong case to balance consequentialist and non-consequentialist positions. Accordingly, the proposed principle would bring together responsibilities for climate-related harm on the one hand, and the capacity to fight climate change on the other hand (necessarily including the capacity to pay for corresponding efforts). Stalley (2013) in turn suggests that, in climate change negotiations specifically and international environmental politics more broadly, the achievement of justice has technically come to be defined as compliance with the CBDR principle. According to this reading, CBDR has developed over time as an answer to developing country parties' calls for fairer rules and procedures in international environmental cooperation. Bringing it to bear in a new climate treaty would then be quintessential to achieving the universal agreement it requires to be effective.

3 CBDR and the UNFCCC

Bringing together 195 parties, the UNFCCC today has a universal scope and constitutes the main international legal instrument on climate change. This regime has been shaped by two distinct framings, which can easily be related to the Montreal Protocol and the UNCED. First, climate change under the convention is framed as an environmental issue, where pollution control is the answer. Although it was recognised that there was no quick technological fix in sight for the climate problem – as there was with ozone – this precedent and its Montreal Protocol inevitably influenced the emerging political dynamics of climate change and its regime design (Depledge / Yamin 2009). Second, the issue of climate change was integrally linked to sustainable development, highlighting intra- and intergenerational equity, emphasising that developing countries are minor contributors to current global environmental problems, have lower capacities and still have high levels of poverty that need to be addressed first (Depledge / Yamin 2009).

3.1 From principle to practice: CBDR and the mitigation of climate change

Under these framings of climate change as an environmental problem and its link to sustainable development, the principle of CBDR, expressed as common but differentiated responsibilities and respective capabilities in Article 3.1 (see Box 1), helped to make universality possible among 195 parties.

Although neither the preamble nor Article 3.1 of the convention text (see section 2.1) refer to mitigation in particular, the CBDR principle is mostly being discussed in relation to the mitigation of greenhouse gas emissions (Ciplet / Roberts / Khan 2013). Yet the principle of equity is indirectly included in agreements on climate finance, for example by the agreement that climate finance from Annex I countries for adaptation *"will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa"* (UNFCCC 2010, dec. 2/CP.15). And according to CAN, financial and technological support is key to reach an equitable agreement (CAN 2013a). However, Ciplet, Roberts and Khan (2013) conclude that, in practice, adaptation finance has thus far reflected developed country interests far more than the principles of justice adopted by parties, particularly because of *"ever-widening chasm between funds needed, and those promised and delivered"* (Ciplet / Roberts / Khan 2013, 64).

There are a number of important differences in the way CBDR is expressed in Article 3.1 of the UNFCCC, as compared to the Rio Declaration. Whereas the Rio Declaration clearly refers to historical contributions of developed countries to environmental degradation, these contributions are only mentioned in the UNFCCC's preamble.[5] Related to this, the UNFCCC wording adds the notion of "respective capabilities" to CBDR. As developed countries strongly opposed any reference to their historical emissions, it was important to put responsibilities and capabilities on an equal footing (Deleuil 2012). Finally, the Rio Convention states that *"developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development,"* which is fundamentally different from the UNFCCC statement that "*developed country Parties should take the lead."* The latter is more active, but also implies that developing country parties can also take the lead, or will in any case follow (eventually).

5 See section 3.2 for more background information on historical emissions.

Problem

Some 20 years after the UNFCCC convention text was formulated, the vagueness and uncertainties that have characterised the legal nature of CBDR remain unchanged, and its content and the nature of the obligation it entails are deeply contested (Rajamani 2010; Deleuil 2012).

The Kyoto Protocol of 1997 (which entered into force in 2005) reinforced the clear divide between Annex I (generally the developed countries) and Non-Annex I parties (the developing countries). Most of the Annex I parties to the convention agreed on legally binding targets to limit or reduce their greenhouse gas emissions, as listed under Annex B in the Kyoto Protocol. Non-Annex I parties also ratified the protocol, but it does not include binding targets for them to limit or reduce their emissions. In practice, this means that emissions of developing countries are allowed to grow in accordance with their development needs. Furthermore, although Article 3.1 mentions the "lead" of Annex I countries, neither the convention nor the protocol explicitly state that Non-Annex I countries should follow this lead – should it be demonstrated (Depledge / Yamin 2009). Article 10 of the Kyoto Protocol does mention that all parties shall *"continue to advance the implementation"* of the commitments under Article 4.1 of the FCCC,[6] but also explicitly states *"without introducing any new commitments for Parties not included in Annex I."* Altogether, the "common obligations" in the UNFCCC of Non-Annex I parties are therefore sometimes criticised as being nominal (see Honkonen 2009, 131).

In the future, however, not only the industrialised countries, but also the newly industrialising and developing countries have to limit the amount of greenhouse gases they emit in order to prevent dangerous climate change (WBGU 2009). While the already high emissions from Annex I countries have remained the same between 1990 and 2008, those of Non-Annex I countries have increased by 223 per cent (Parikh / Baruah 2012) (see Figure 2).

Some go as far as to foretell that "[w]*ithout a firm, effective and mutually acceptable bedrock definition defining the scope and depth of developing country involvement, any truly global negotiation will almost inevitably fall apart"* (Walsh et al. 2011). Yet most developing countries support a strict interpretation of CBDR involving a clear differentiation between categories of states.[7] The rise of emerging economies has made it even harder to identify how the responsibilities of states differentiate, increasingly bringing into question the CBDR compromise. Ultimately, *"trying to reach any new consensus comes down to a simple question: what is common and what is different between developed and developing countries?"* (Deleuil 2012).

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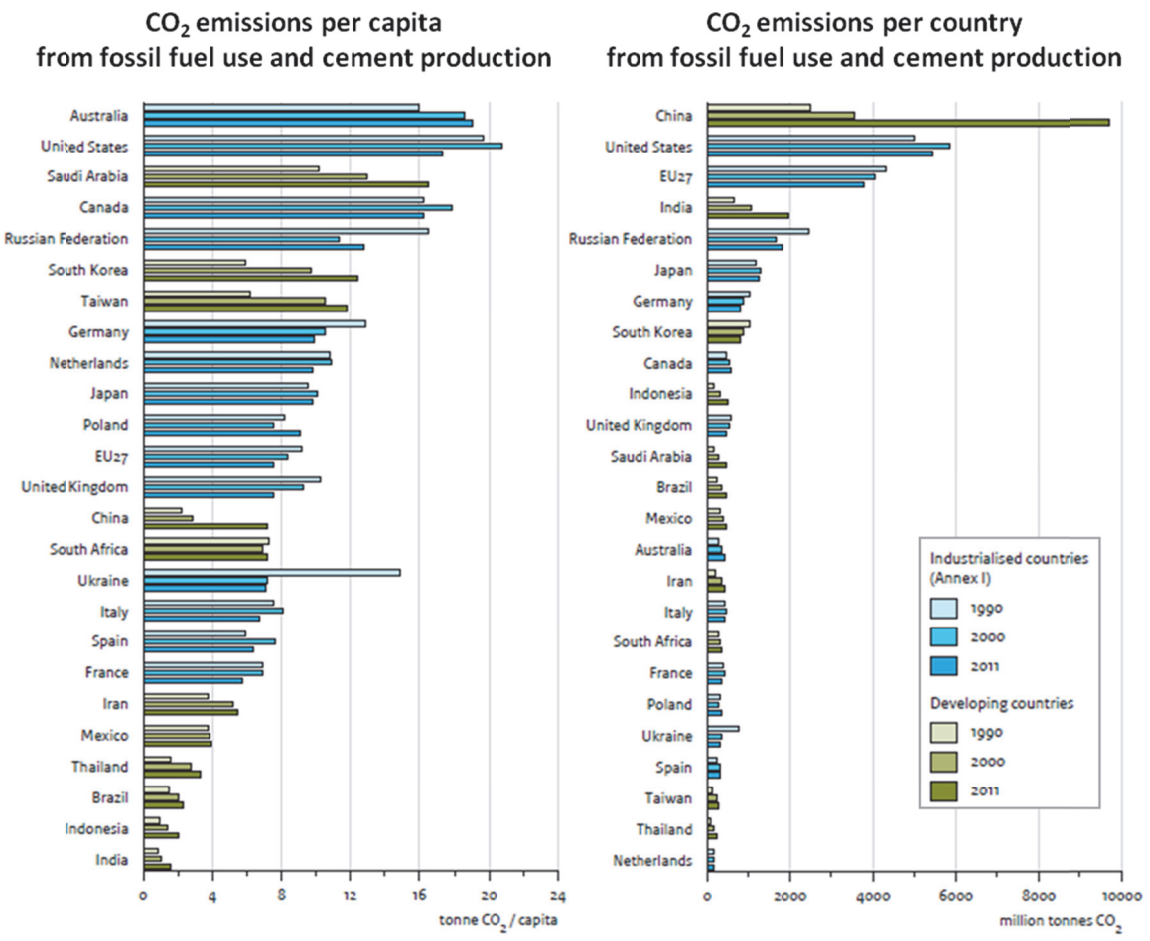
6 This includes, for example, the development, periodical update, publication of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol (3.1.a); the formulation, implementation, publication and regular update of national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol (3.1.b); and taking climate change considerations into account, to the extent feasible, in relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimising adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change (3.1.f).

7 This includes China and India: see section 3.3 for descriptions of the positions of these countries and others.

Figure 2: Global CO_2 emissions from fossil fuels and cement production: per capita / per country



Source: Olivier, Janssens-Maenhout and Peters (2012)

How to differentiate

CBDR is mostly framed to compare national or per capita emission levels. The problem with these indicators is that, although they may capture some facet of the relevant notion of "responsibility", they both fail to capture other facets. The share of country-wide emissions to global emissions captures the causal-contribution aspect concerning responsibilities of sovereign states at the international level, but it does not reflect other potentially relevant aspects, such as population size. Per capita emissions, on the other hand, do reflect population size, but they are unable to reflect causal contributions. For example, Ellermann, Höhne and Müller wrote in 2011 that, on the basis of per capita emissions, the same responsibility would be assigned to China and Latvia, with an annual 0.8 tonnes of carbon emissions per capita in each country, despite there being a 500-fold difference in aggregate emissions.

Numerous ways to cope with the barriers towards implementation of CBDR have been proposed by researchers and parties to the UNFCCC. In line with the broad interpretation of the CBDR notion, these proposals differ strongly in the way they attribute emissions as well as in their proposals regarding how to differentiate responsibilities and how to ensure

participation. With this in mind, Tables 1–3 present (non-exhaustive) lists of pertinent proposals according to three distinct categories[8]:

- ***Approach***. This is a very basic first step that fits in a broader equity debate (as opposed to the debate: How or to whom should emissions be attributed? This step is crucial before decisions can be made accordingly on who should reduce their emissions by how much. Currently, the UNFCCC processes are based on inter-state negotiations and, related to this, allocates emissions to producers. This is not likely to change, and therefore many of the mechanisms proposed under "approach" are superfluous. Albeit, the inclusion of this category allows for a certain filtering of proposals, which benefits the "differentiation" and "participation mechanism" categories.
- ***Differentiation***. Once emissions have been attributed, a logical next step is to differentiate emission limitation and reduction responsibilities. Agreeing on a basis for differentiation and corresponding criteria is, of course, the political crux of the matter. Negotiators are faced with a host of sensitive issues in that respect. These concern not only the basis for differentiation as such (e.g. responsibility for emissions; costs of mitigation and capacity to mitigate; vulnerability to climate change impacts, etc.), but also touch on related questions that include choosing between types of commitments, and the need for dynamic adjustments (as opposed to static differentiation).
- ***Participation mechanisms.*** Finally, once the basis for differentiation has been decided upon, universal participation can be ensured through a number of participation mechanisms. These are mechanisms that make participation more attractive to, for instance, those parties with lower capacities or restrictive developmental and economic circumstances.

Progress

Until now, no balance between the conflicting claims of states has been found (Deleuil 2012). At the same time, the global economic crisis, mostly affecting Annex I countries, puts the "respective capabilities" add-on to the CBDR principle into a different perspective.

In recent years, the gap between the responsibilities of Annex I and Non-Annex I countries is perceived to be closing in international climate negotiations (cf. Deleuil 2012). For example, developed country parties have *"nationally appropriate mitigation commitments or actions"* and developing country parties now have *"nationally appropriate mitigation actions"*. Similarly, in the ADP, some parties emphasise that the provisions and structure of Annex I and Non-Annex I groupings are sufficient for differentiation, whereas other parties are looking towards indicators such as total emissions volume, emissions per unit of GDP, population and technological advancement in order to differentiate (ADP 2013).

8 These categories and the following tables serve to structure the debate and to capture some of the key proposals that are under discussion. As such, they neither claim to be exhaustive in content nor perfect in their conceptual substance. Indeed, it can be argued that participation mechanisms represent in themselves a differentiation, or that "survival emissions" represent an approach to allocating emissions rather than a means of differentiation. Yet, they provide a consistent reference base for the remainder of this discussion paper, as the following examples of other manifestations of CBDR follow the same structure and provided analogous tables.

Table 1: Approaches to attribute greenhouse gas emissions among UNFCCC parties

	Mechanism	Proposed by	Explanation
Approach	Budget approach	Horstmann and Scholz (2011); WBGU (2009); Honkonen (2009)	The budget approach first assesses how much GHG can still be emitted before global warming probably exceeds 2°C, and then divides emissions budgets among countries. India presented a budget approach in 2011 based on equal emission rights. The WBGU presented a similar approach with emission rights to 2050, based on 2010 population numbers. Both proposals include tradable rights, making the budget approach more flexible and target-based than earlier proposals.[9]
	Contraction and convergence	BASIC Experts (2011)	This approach is similar to the one above, but proposed by countries rather than research. Each country will start out with emission entitlements that equal its current real emissions level. Over time, the emissions converge to equal its per capita entitlements, while the overall global budget contracts to accommodate the emissions-reduction objective.
	Greenhouse Development Rights (GDR) approach	http://gdrights.org/	GDR debuted in 2004 and differs from the emission rights and budget approach in the sense that it is an effort-sharing framework. GDR quantifies the equity principles of the UNFCCC through an analytic environment within which people can express *their* preferred interpretation of the convention's equity principles and then examine its implications for any country. GDR models an "equity spectrum" in which there are not static annexes: it is based on dynamic indicators of responsibility, capacity and development – indicators that change over time.
	Define responsible actor	Dellink et al. (2009)	Which actor should be held responsible: states, businesses or individual citizens? States, as such, are not emitters of greenhouse gases, but they may have the power to regulate emissions and have taken on international legal obligations to do so. Holding businesses or even individuals responsible might prove much more complicated.
	Attribute emissions to consumers, not producers	Dellink et al. (2009); Harris and Symons (2013)	Emissions are normally attributed to the source. From an ethical perspective, it may make more sense to attribute emissions to the consumers of a good. For instance, a large proportion of China's emissions are related to the production of goods that are imported by – and consumed in – OECD countries (Dellink et al. 2009). Consumption-based emission targets would reduce the competitiveness implications of differentiated national targets, and the case for negotiating mechanisms to tax emissions embodied in

9 Honkonen (2009) argues that budgets could be assigned using Kant's categorical imperative. This way of motivation of action entails that one should act only according to that maxim whereby you can, at the same time, want that it should become a universal law. Applied in the context of burden-sharing of CO_2 emission reductions, the rule would mean that each country would choose an emissions abatement level, at least as large as the uniform abatement level it would like all countries to undertake. This would reveal countries' true preferences towards taking action (Honkonen 2009). Budgets could also be assigned based on utilitarianism, which is a form of consequentialism. Utilitarianism condemns acts that reduce the overall good for those involved. However, this leaves some space for free-riders that are unwilling to commit.

Table 1 (cont.): Approaches to attribute greenhouse gas emissions among UNFCCC parties			
	Mechanism	**Proposed by**	**Explanation**
Approach			developed world consumption (e.g. via equalising border adjustments) would be strengthened. This alternative approach to implementing "differentiated responsibility" might facilitate more cooperative outcomes in climate negotiations (Harris / Symons 2013).
	Sectoral-based differentiation	Sawa (2008); Honkonen (2009)	Sectoral approaches can determine politically acceptable national targets and domestic allowance allocations based on reduction potentials from technological perspectives, including in developing countries. To prevent ineffective multiple sector-specific negotiation processes, Sawa proposes grouping sectors into 1) energy-intensive industries that are exposed to international trade and leakage issues; 2) sectors that are mostly domestic, such as electricity and road transport, for which benchmarks and best practices can be relatively easily identified; 3) household and commercial sectors, or sectors that encompass a wide range of technologies, thus complicating indicator-setting and international comparison of indicators. Honkonen (2009) states that the European Union (EU) also had a burden-sharing scheme based on a triptych approach, dividing the economy in the power sector, internationally oriented heavy industry, and a "domestic" sector. Emissions are treated differently but equally across the EU member states. This approach moved the attention away from comparing contributions and fairness among member states towards comparing contributions and fairness across sectors within the EU.
Source: Authors' compilation			

Table 2: Ways to differentiate mitigation responsibilities among UNFCCC parties			
	Mechanism	**Proposed by**	**Explanation**
Differentiation	Same obligations, differentiated stringency or commitments	Deleuil (2012)	All countries would be subject to the responsibility of limiting or reducing their GHG emissions, but some would have a more stringent obligation than others. Within the obligations, countries could have different types of commitments, with some countries taking on QELROs,[10] and others adopting renewable energy targets or energy-efficiency targets.
	Differentiate among Non-Annex I countries	Parikh and Baruah (2012); Depledge and Yamin (2009)	The responsibilities of Annex I countries remain supreme in tackling climate change, but future differentiation of obligations among developing countries is a prerequisite to any sensible engagement of the wide variety of developing countries. Non-Annex I countries could be grouped, with some countries having more responsibilities to mitigate emissions than others. Parikh and Baruah (2012) propose to

[10] QELROs (Quantified Emission Limitation or Reduction Objectives) are the greenhouse gas emissions reduction commitments that developed countries listed in Annex B to the Kyoto Protocol made, provided in percentage terms relevant to base year or period.

Table 2 (cont.): Ways to differentiate mitigation responsibilities among UNFCCC parties			
	Mechanism	**Proposed by**	**Explanation**
Differentiation			classify developing countries into three groups, based on three criteria and including benchmarks. These categories are: 1) CO_2 emissions per capita, which reflects income levels, the types of energy resources and technologies available for individuals in a country; 2) total CO_2 emissions, as a criterion to group countries; 3) carbon emissions / GDP intensity, to capture the efficiency of the economy, including production and consumption technologies.
	Include criteria other than economic development and emissions	Deleuil (2012); Karousakis, Guay and Philibert (2008)	In their comprehensive review of existing indicators and differentiation frameworks, Karousakis, Guay and Philibert collated the following: Total national GHG emissions Emissions per capita Share of global emissions Proportion of world average per capita emissions Emissions per GDP Emissions growth rate GDP per capita Human Development Index (HDI) Cumulative emissions Climate vulnerability indicator Institutional indicators They conclude that none of the individual indicators is able to reflect the multiple principles of Article 3 of the UNFCCC, and thus propose "composite indicators". More recent studies look beyond economic development and current and future emissions, and consider other indicators to set differentiated obligations; these include: mitigation potential (Deleuil 2012); costs of mitigation (Deleuil 2012); emissions per unit of GDP (Parikh / Baruah 2012).
	Indicator basket	CAN (2013a)	Based on the convention's core equity principles, CAN proposes to define a basket of indicators that simply but adequately represent those principles. These indicators would be quantitative and measurable, based on actual time-series data, and updated as we move forward in time.
	Differentiate between luxury goods and "survival emissions"	Harris and Symons (2013)	In the context of attributing GHG emissions to consumers rather than producers, "survival emissions" for consumption by the world's poor should be priced differently than "luxury emissions" associated with the lifestyles of affluent people. There is no justification for exempting emissions from consumption of luxury goods simply because they were produced in developing countries. These inconsistencies are becoming more obvious with the emergence of affluent middle classes with corresponding consumption patterns in developing countries.
Source: Authors' compilation			

Table 3: Mechanisms to ensure broad participation in global mitigation efforts

	Mechanism	Proposed by	Explanation
Participation mechanism	Financial compensation	e.g. Walsh et al. (2011); Romani and Stern (2013)	All countries would have similar responsibilities towards mitigation, but developing countries would be entitled to financial compensation for environmental restraint while pursuing their humanitarian and development goals. The Copenhagen Accord is a step in this direction. Developing countries signed up to it on the back of the financial commitment of developed countries, and developed countries on the back of the pledges made by developing countries. These transfers were interpreted (at least by developing countries) as being linked to equity: without some attention to equity, an agreement would have been very difficult (Romani / Stern 2013). Compensation can flow to mitigation (for developing countries to invest in climate-friendly production processes), to adaptation (to compensate for climate change impacts caused by countries with the highest historical emissions) or "Loss and Damage" (compensate to losses and damages associated with climate change impacts, including extreme events and slow onset events, in particularly vulnerable developing countries).
	Technological support / Technology transfer	Kreft and Bals (2013); Shrivastava and Goel (2010); Winkler (2010)	Technology transfer towards developing countries is an important incentive for developing countries to engage in mitigation efforts and a long-standing demand of developing country parties in climate negotiations. Accordingly, developed country concessions on technology matters are considered a key parameter for the conceptual contract zone in which a global climate deal may eventually be struck (Winkler 2010).
	Joint fulfil-ment of com-mitments	UNFCCC	Article 4 of the Kyoto Protocol allows for joint fulfilment of commitments. It could help a country to accept a higher emission-limitation or -reduction target, as it is partly forwarded to the group that takes on the joint fulfilment, rather than the country itself. In the second commitment period of the Kyoto Protocol, EU members states will do so based on the condition that the aggregate calculated levels of greenhouse gas reductions surpass the agreed levels.

Source: Authors' compilation

Indeed, the ADP is explicitly tasked to develop *"a protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC* applicable to all parties [...]" (UNFCCC 2011, emphasis added). The practical interpretation of CBDR will thus be instrumental to close the "pre-2020 ambition gap", even as the ADP has consistently avoided referring to it so far. Deleuil concludes accordingly that the practice of the CBDR principle is changing, sometimes mentioning Article 3, but mostly referring to general notions such as equity, national circumstances and specific needs of developing countries (Deleuil 2012).

The work of the Durban Platform was advanced at COP 18 in Doha during intersessional negotiations in Bonn in May 2013 (see UNFCCC 2012b, decision 2/CP.18; IISD 2013a) and COP 19 in Warsaw. It has been acknowledged in this context that the work of the ADP shall be guided by the principles of the convention (including Art. 3.1 on CBDR). Accordingly, many parties consider these principles to be fundamental to the ADP's work (IISD 2013a). While it is widely recognised that action from all parties is required, it was also clearly stated by some countries that these actions must be differentiated among countries (IISD 2013a). It was thus suggested to have a menu of options, or a spectrum of commitments, encompassing a variety of enhanced actions and different types of commitments. Mitigation action could be differentiated based on absolute economy-wide reduction targets; relative targets / deviation from business as usual; carbon budgets; intensity-based targets; and sectoral targets, actions and policies (ADP 2013).

In Warsaw, the draft conclusions of the ADP co-chairs invited *all parties* to submit information on their mitigation activities to the UNFCCC secretariat, including finance, technology and capacity-building support for mitigation action in developing countries (UNFCCC 2013a). In the corresponding decision of COP 19, each party that has not done so yet is urged to communicate its quantified economy-wide emission-reduction target or nationally appropriate mitigation action as applicable (decision 4/FCCC/ADP/2013/L.4/Add1). In that same decision, developed countries are urged to implement this reduction target without delay, to revisit their respective targets, and to increase technology, finance and capacity-building support to enable increased mitigation ambition by developing country parties. Developing countries, in turn, are only urged to implement their nationally appropriate mitigation action as communicated and to consider further action, while recognising that nationally appropriate mitigation actions will be taken in the context of sustainable development, supported and enabled by technology, finance and capacity-building (UNFCCC 2013b). This demonstrates *de facto* differentiation, while avoiding explicit terms such as CBDR or equity. Only the annex of the co-chairs' draft conclusions, denoted as *"work in progress"* on a "[n]*on-exhaustive list of areas for further reflections",* includes two items on differentiation: *"differentiation: ways of reflecting"* and *"ways of putting forward intended nationally determined commitments and of considering ambition, equity and fairness, informed by science; means of implementation"* (UNFCCC 2013a).

Deleuil (2012) concludes that the CBDR principle is not, in itself, a vital condition for the continuation of differential treatment in the regime. However, he also states that the clearer the future place and meaning of CBDR, the clearer state categories taken into account – and obligations they are subjected to – will be and the easier compliance and review will be for parties and the treaty bodies.

This chapter further elaborates on the current positions on CBDR of parties to the UNFCCC. First, the Annex I / Non-Annex I dichotomy is further explained, as this is the basis of the current ways in which CBDR is brought into practice under the UNFCCC and its Kyoto Protocol. Second, this chapter provides insights into the positions towards CBDR of some of key players in the UN climate negotiations: the Alliance of Small Island States (AOSIS), Brazil, China, the EU, India, South Africa and the United States.

3.2 The politics of dichotomy: CBDR, GDP and historical emissions

In 1992 the responsibilities of parties were differentiated according to the dichotomy that was effectively introduced by the UNFCCC's Annex I. This Annex I was comprised of 43 parties, which included all of the OECD member states (as of 1992) plus a host of additional states undergoing the process of transition to a market economy in the wake of the Soviet Union's collapse. Conversely, all other parties were invariably labelled as Non-Annex I, whereby the resulting Annex I / Non-Annex I dichotomy ultimately reflects the post-colonial division of the world. Originally, the main criterion to include a state in a given Annex was the level of economic development (Deleuil 2012).

Croatia, Australia and others have stated that this does not reflect current realities (see Deleuil 2012). This section compares GDP per capita data from 2010 and 1992 to test this statement in terms of the economic situations of Annex I and Non-Annex I parties. If anything, the dichotomy reflects current realities better than past realities. For example, 33 out of the 43 Annex I parties are among the top 50 of countries with the highest GDP per capita in 2010, four more than in 1992 (see Table 4). However, the comparison also shows that the Annex I parties are not a homogenous group. Although the Annex I parties are well-represented among the countries with the highest GDPs per capita, there are also 32 Non-Annex I parties with higher GDPs per capita than the five Annex I parties with the lowest GDP per capita. Without prejudging the relative value or adequacy of the mitigation efforts of individual Annex I countries, it seems safe to say that the Annex I / Non-Annex I dichotomy is not well reflected in terms of parties' GDP per capita.

Table 4: Comparison of Annex I and Non-Annex 1 parties' GDP per capita, for 1992 and 2010

	Number of Annex I countries among [...] of parties with the highest GDP per capita:		**Number of Non-Annex I countries with higher GDP per capita than [...]**	
	Top 30	**Top 50**	**Annex I lowest 5**	**Annex I lowest 10**
1992	23	29	ca. 40	ca. 30
2010	24	33*	32	17

*As there are 43 Annex I parties in total, this means 10 of them are not among the top 50 of parties with the highest GDP per capita.

Source: World Bank (2013)

The data from 1990 and 2010 of the Human Development Index (HDI) were also analysed as an indicator for parties' development levels.[11] All Annex I parties are in the top 50 of countries with the highest HDI (see Table 5). There is only a minor increase in the number of Non-Annex I parties that have a higher HDI that the lowest-scoring Annex I parties. Altogether, the prevailing dichotomy thus appears better reflected in HDI terms than in terms of GDP per capita.

11 Data for 1990 and 2012 was not available for all Parties. Belarus, Czech Republic, European Union, Liechtenstein, Monaco, Poland, Slovenia and Turkey are therefore left out of the analysis, leaving the represented number of Annex I Parties in this analysis at 35.

Table 5: Comparison of Annex I and Non-Annex 1 parties' HDI, for 1990 and 2010				
	Number of Annex I countries among [...] of parties with the highest HDI rank:		**Number of Non-Annex I countries with higher HDI rank than [...]**	
	Top 30	**Top 50**	**Annex I lowest 5**	**Annex I lowest 10**
1990	25	35	9	7
2010	25	35	11	8
The Annex I parties Belarus, Czech Republic, European Union, Liechtenstein, Monaco, Poland, Slovenia and Turkey are excluded from analysis, leaving the number of represented Annex I parties at 35.				
Source: UNDP (2013)				

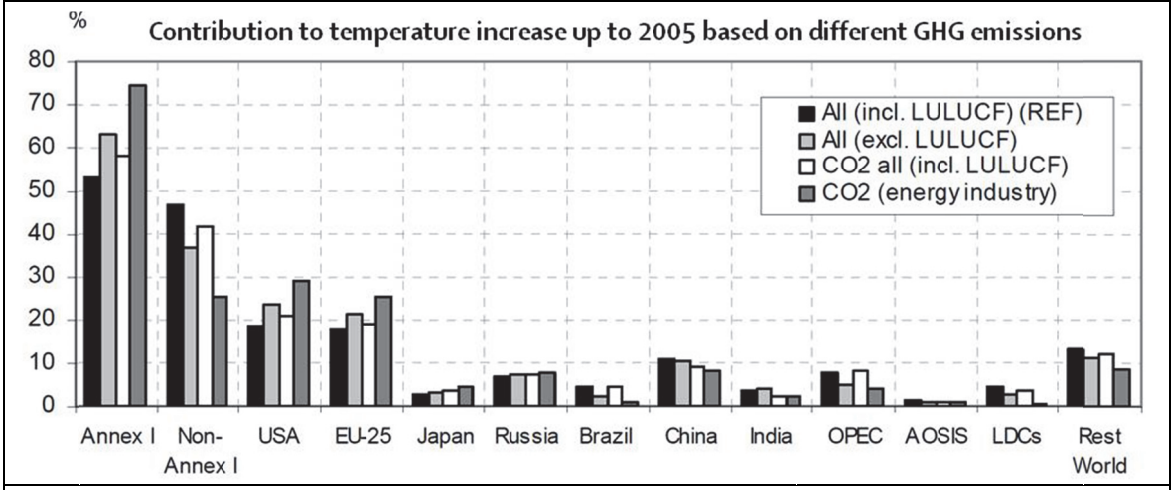
The original Annex I / Non-Annex I party dichotomy was retained in the 1997 Kyoto Protocol. Most Annex I parties agreed on legally binding targets to limit or reduce their greenhouse gas emissions. Non-Annex I parties also ratified the protocol, but it does not include binding targets for them to limit or reduce their emissions. Emissions of developing countries are allowed to grow in accordance with their development needs. The "common obligations" in the UNFCCC of Non-Annex I parties are therefore sometimes criticised as being nominal (see Honkonen 2009, 131).

Historical emissions have largely been caused by Annex I countries, and this is commonly reiterated as a reason to attribute the responsibility of mitigation onto these parties. A paper of BASIC experts (2011), for example, states that – in the context of historical responsibility – an effective international climate change regime with a strong Kyoto Protocol needs to be built, with ambitious targets for Annex I countries as the basis for this effort. In a recent joint political statement of the "BASIC plus" countries, the participating countries recalled that *"responsibility for climate change rests on all countries, differentiated according to the extent to which they have contributed historically to the urgent problem which we now face* […]" (BASIC Ministerial Meeting 2013).

However, the exact amount of historical emissions is difficult to assess and probably impossible to agree on. It depends, for example, on whether emissions from basic needs should be exempted; whether the causal contribution lies with consumers or producers; what kinds of greenhouse gases are taken into account (including the question of their atmospheric lifetimes); and whether land-use change is included (not just in terms of emissions, but also in terms of sink capacity) (Dellink et al. 2008). An example of the strong variation of historical responsibility is given in Figure 3. The variation of historical responsibilities in this figure is only caused by the inclusion of different GHG types. It illustrates, for instance, that the inclusion of emissions from Land Use, Land Use Change and Forestry (LULUCF) makes for a distinctly different picture.

Furthermore, it needs to be determined whether "historical emissions" commence, for example, with the beginning of the industrial revolution or with the first scientific evidence of human-induced climate change (see Figure 4). Arguing on the basis of the polluter pays principle, the WBGU suggests that 1990 reasonably qualifies as a year of reference, because it saw the publication of the First Assessment Report of the Inter-

Figure 3: Relative contribution to temperature increase based on 1900–2005 emissions of all gases, including and excluding LULUCF and non-CO_2 gases for selected countries and country groups



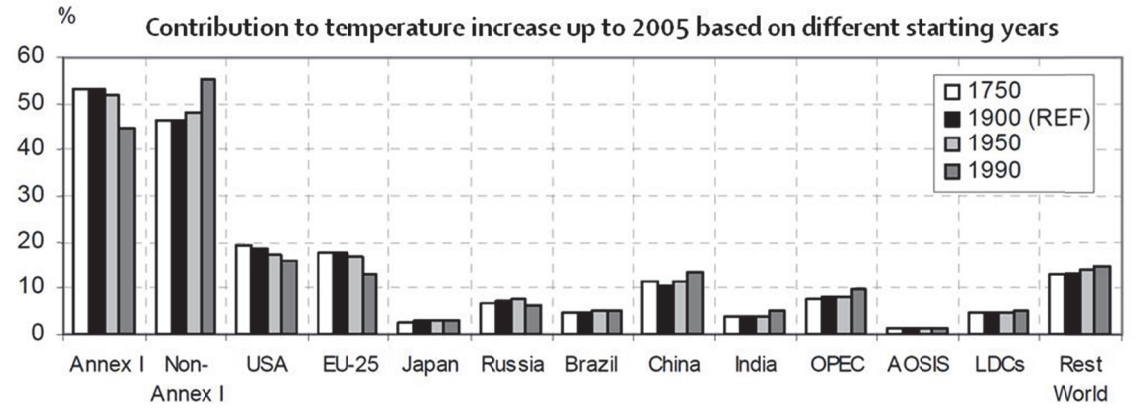
Large differences are caused by countries with high emissions from deforestation and/or from CH_4 and N_2O, in particular Brazil, China and India.

Source: Dellink et al. (2008); figure based on the MATCH model

governmental Panel on Climate Change (IPCC) (WBGU 2009). Accordingly, all of the world's countries were officially informed about anthropogenic climate change, its causes and potential effects. As the IPCC is intergovernmentally mandated and, indeed, controlled, it is no longer plausible for states to plead ignorance even if they are sceptical of the IPCC's results.

In their analysis of historical contributions, Dellink et al. (2008) even propose "end dates" (see Figure 5). Yet, "history does not stop", as the US Special Envoy for Climate Change Todd Stern maintained in view of emerging economies' increasing emissions

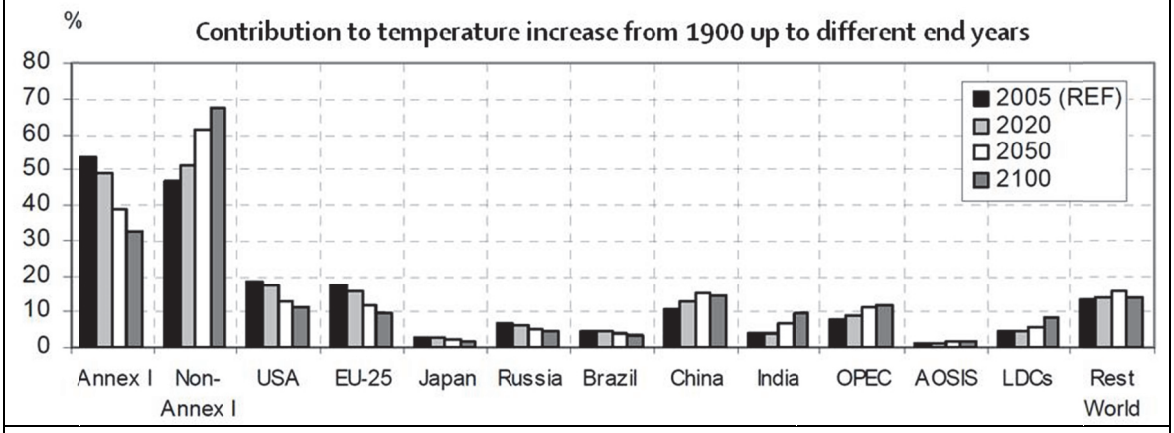
Figure 4: Relative contribution to temperature increase from four different starting years up to 2005



Based on emissions using various start dates of all gases, including LULUCF, for selected countries and country groups.

Source: Dellink et al. (2008); figure based on the MATCH model

Figure 5: Relative contribution to temperature change from 1900 up to four different end years



Based on emissions of all gases including LULUCF for selected countries and country-groups. For future emissions the A1B scenario of IPCC 4AR is used.

Source: Dellink et al. (2008); figure based on the MATCH model

during the Petersberg Climate Dialogue in 2013. In fact, a corresponding statement of the BASIC plus countries that refers *"to the urgent problem which we now face"* may be interpreted as implicitly conceding that future problems are based on future emissions (BASIC Ministerial Meeting 2013).

Ellermann, Höhne and Müller (2011) conduct their analysis on historical emissions using 1890 as a starting year, as datasets are incomplete before that time. As a baseline, they state that Annex I parties have contributed 54.5 per cent of the historical emissions of GHG into the atmosphere.[12] When looking at per capita emissions, and including allowances to emit on a per capita basis, the historical responsibilities of Annex I countries increase to 64 per cent[13] (Ellermann / Höhne / Müller 2011). However, emission patterns have changed over time. Per capita emissions of Sweden and France, for example, are now lower than those of Saudi Arabia, South Korea or Malaysia (Parikh / Baruah 2012). The multiplication of state groups within the developing countries category and the rise of emerging economies – with China and India now being among the world's major greenhouse gas emitters – have called the initial compromise on the Annex I / Non-Annex I dichotomy into question. To date, the dichotomy has not dissolved, but the gap between responsibilities of Annex I and Non-Annex I countries is perceived to be closing (Deleuil 2012). For example, developed country parties have "nationally appropriate mitigation commitments or actions" and developing country parties now have "nationally appropriate mitigation actions".

12 For example, United States 19.7 per cent, EU25 17.8 per cent, China 10.8 per cent, LDCs+AOSIS 3.7 per cent and India 3.9 per cent (Ellermann / Höhne / Müller 2011).

13 For example, United States 25.6 per cent, EU25 19.1 per cent, China 6.4 per cent, LDCs+AOSIS 4.1 per cent and India 0.3 per cent (Ellermann / Höhne / Müller 2011).

3.3 Perspectives on CBDR: A selection of parties' positions

Perceptions of equity and fairness are typically based on countries' specific backgrounds and particular economic as well as social circumstances (Hallding et al. 2011). This section therefore provides an overview of several key parties and a party group in the UNFCCC climate change negotiations and their specific position towards the principle of CBDR. The section includes positions of two major historical contributors of emissions (the EU and the United States), four emerging economies with diverse characteristics in terms of emissions, populations and types of emission patterns (Brazil, China, India and South Africa) and the party group AOSIS, which is taken up in the analysis, as it represents a group of vulnerable countries that pro-actively engages in the CBDR debate. They are provided in alphabetic order.

3.3.1 Alliance of Small Island States

Small island countries realised their disproportionate vulnerability to the adverse effects of climate change early on (Betzold / Castro / Weiler 2011). Even though the respective countries have diverse backgrounds, they are characterised by remoteness, growing population densities and being prone to natural disasters. Rising sea levels constitute the major threat related to climate change (Alfaro-Pelico 2012). Consequently, in 1990 AOSIS was established in order to speak with one voice in international climate change negotiations (Betzold / Castro / Weiler 2011).[14]

AOSIS has been pushing continuously to raise the ambitions of the climate regime (Eckersley 2012). During negotiations around the Kyoto Protocol, small island states favoured proposals that would have admitted developing countries to unilaterally adopt voluntary mitigation targets, if and when they wished to do so. However, this was dismissed due to the refusal of major developing countries (Depledge / Yamin 2009). When it comes to adaptation, it is due to the persistence of small island states and least-developed countries (LDCs) that adaptation has become such an important item on the UNFCCC agenda (Depledge / Yamin 2009).

More recently, during COP 15 in Copenhagen, AOSIS made it clear that they expect all parties to undertake national mitigation actions according to their common but differentiated responsibilities and respective capabilities. They called upon developed countries to take the lead and aim for reducing emissions a minimum of 45 per cent below 1990 levels by 2020 collectively, and urged developing countries to *"aim to achieve significant deviations from baselines by 2020"* (AOSIS 2009, 5). At COP 17 in Durban, AOSIS and other vulnerable countries strongly pleaded for a legally binding agreement. Although other developing countries initially opposed this, their resistance weakened in the face of strong efforts by the EU and AOSIS and the danger of losing the Kyoto Protocol (Rajamani 2013). AOSIS emphasised that actions will be required by all parties, although historical emissions by developed countries should be an important issue in the new agreement. De-

14 Unlike the EU, AOSIS is not officially a party to the UNFCCC, but functions primarily as an ad hoc lobby and negotiating coalition for Small Island Developing States within the United Nations system.

veloped countries should thus *"demonstrate leadership to combat climate change and the adverse effects thereof"* (AOSIS 2013, 2).

3.3.2 Brazil

Brazil has a unique GHG emissions profile (Viola 2013). Due to deforestation, it holds the largest emission rates globally for activities that do not emanate from the energy sector (Rong 2010). Although deforestation rates have decreased since 2009, an increase was recognised in the period between August 2012 and July 2013 (INPE 2013). Brazil's energy production, in turn, is largely based on hydropower, and therefore largely renewable.

In the beginning of climate change negotiations, Brazil's position was basically in line with the "traditional non-commitment position" of the G77 and China (Kasa / Gullberg / Heggelund 2008, 1050). In particular, Brazil refused to discuss emissions from deforestation in climate change negotiations (Kasa 2013). This stance was also reflected in the "Brazilian Proposal", a proposal for an agreement on future climate policy that was presented in 1997 (see e.g. Wei et al. 2013). Taking into account historical responsibilities, it aimed to depict developed countries' share of overall temperature rises, and to respectively set emission allowances (Winkler / Rajamani 2013). Developed countries opposed this proposal because the whole burden of emission reductions would have been on them (Wei et al. 2013).

A gradual shift from this position has been observed since 2005 (see Kasa 2013 for a detailed analysis). For instance, during COP 12 in 2006, Brazil suggested establishing a global fund to assist countries in reducing deforestation. With this, Brazil gave up on its long-held opposition to connecting deforestation policies with global financial tools (Vieira 2013). At COP 15 in Copenhagen (2009), Brazil made voluntary pledges to reduce emissions by 36.1–38.9 per cent on the basis of a business as usual (BAU) scenario until 2020 (Lucon / Romeiro / Pacca 2013). At the same time, however, Brazil also declared that this type of voluntary pledge should not be seen as a parameter for other emerging economies (Kasa 2013; Viola 2013). It hence adopted an "ambiguous" position – between its own actions and what should be asked from other countries (Kasa 2013, 1055) – in this way preserving its traditional alliance with China and India (Viola 2013).

In line with small island developing states (SIDS), LDCs, the EU and other countries, Brazil has pleaded for a binding agreement under the Durban Platform (Deleuil 2012). In its submission to the UNFCCC on matters related to the work of the ADP, Brazil states that the agreement must consider the principle of CBDR-RC and the legal separation of commitments between Annex I and Non-Annex I parties, with all parties enhancing efforts on mitigation. Brazil is of the view that each party should define its own contributions to the 2015 agreement, taking into consideration historical responsibilities, national circumstances and capacities (Government of Brazil 2013). In this context, during COP 19 in Warsaw, Brazil brought forward the idea that the IPCC should develop a reference methodology to account for historical responsibilities. This suggestion was supported by the BASIC group (Brazil, South Africa, India and China) and others, but was opposed, for instance, by the United States, the EU, Australia and Canada (IISD 2013d).

3.3.3 China

With the world largest population and high economic growth rates, China is often seen as one of the central players in international climate change negotiations. Its GHG emissions have more than doubled in the past decade (Leal-Arcas 2013). China has also surpassed the United States as the largest emitter of greenhouse gases in absolute terms. If this rapid growth continues, China's emissions will account for approximately a quarter of the world's annual total in 2030 (Walsh et al. 2011).

In UN climate negotiations, China's role must be assessed in light of its economic situation (Tian / Whalley 2008). China's economic growth relies heavily on the use of fossil fuels, causing high rates of greenhouse gas emissions (Kasa / Gullberg / Heggelund 2008). Chinese policy-makers see their country on a long-term high-growth path, which will lead to substantial poverty reduction (Tian / Whalley 2008). In the 1990s, Premier Li Peng indicated that economic development takes precedence over environmental protection, and that developed countries have a responsibility to provide financial resources and technology to compensate developing countries (Stalley 2013). China considers mitigation the main responsibility of developed countries and has repeatedly insisted for fairness and equity (Stalley 2013) while making no commitment to the Kyoto Protocol.

Moreover, China has assumed a leadership role within the group of developing countries, and the G77 in particular (Kasa / Gullberg / Heggelund 2008; Walsh et al. 2011). Being one of the "most vocal advocates" of the principle of CBDR, China has repeatedly motivated developing countries to stand together on issues concerning fairness and equity (Stalley 2013, 4). Moreover, China strategically employs the principle of CBDR to frame climate change as a "North-South issue" (Stalley 2013, 3). It has purported that CBDR is a permanent element in climate change negotiations that has contributed to deadlock due to conflicting interpretations of the CBDR principle by the different parties (Harris / Symons 2013). Deleuil asserts that developing countries, among them China, deploy formal language to "imply a compelling legal nature" of the CBDR principle, and thus attempt to urge developed countries to comply with their terms (Deleuil 2012, 275).

In the meantime, with a view towards increasing recognition of the adverse effects of climate change, severe domestic air pollution, energy security as well as profound external pressures, China has increasingly been taking domestic action (see e.g. Leal-Arcas 2013; Stalley 2013; Walsh et al. 2011). At the Bonn Climate Change Conference in April/May 2013, the Chinese delegation named several national targets regarding reductions in carbon intensity and targets for the use of non-fossil energy, its electricity mix as well as carbon sinks (IISD 2013c). China's current Five-Year Plan (2011–2015) puts emphasis on economic and industrial restructuring that will lead towards a greener, more efficient economy with lower carbon emissions. As part of the plan, China is developing regional domestic carbon-trading programmes and experimenting with emission taxes (Leal-Arcas 2013).

However, more domestic action does not necessarily mean a different position on CBDR-RC. The start of the negotiations around the ADP – tasked to develop *"a protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC* applicable to all parties [...]" (UNFCCC 2011, emphasis added) – also marks a shift in the position of many of the developing countries that have been rejecting consideration of any binding commitments for a long time. However, it is still uncertain which responsibilities – and under what

conditions – developing countries, and especially China, will accept (Torney 2013). In its submission on the work of the ADP, China once more stressed that the outcome needs to reflect historical responsibilities of developed countries, and that the differentiation between developing and developed countries was *"the very foundation of the Convention regime."* Moreover, it is emphasised that development situations and the capabilities of developing countries would need to be fully considered (Government of China 2013, 1).

3.3.4 European Union

There are large differences between the per capita GHG emission of different EU member states, but as a group of countries, the EU is the biggest historical emitter of greenhouse gasses (see e.g. Dellink et al. 2008, 2009).[15] Through the adoption of comparatively strict emission-reduction targets and ambitious climate policies in the past, the EU is often still seen as taking on climate leadership (see Jordan / Rayner 2010). These targets of this biggest regional block of Annex I parties might be explained with the important role of energy in the European integration process. Furthermore, intensive industrialisation over time caused increasing natural degradation, which in turn led to growing environmental awareness and an emergent green movement. These topics were thus incorporated into the European political agenda (Mehling / Frenkil 2013). In international climate change negotiations, the EU was able to achieve progress during some critical moments. For example, after the United States backed out, the EU has been successful in making other states ratify the Kyoto Protocol, which only holds mitigation commitments for Annex I countries. Furthermore, it managed to spark the interest of other parties in its climate change policies and Emissions Trading Scheme (Lindenthal 2009). Looking closer at the EU's more recent position in climate-related topics, critics argue, however, that its ambitious stance has been overtaken by other parties (e.g. Bals et al. 2013). For instance, its emission-reduction target of 20 per cent compared to 1990-levels is outperformed by a range of other countries. As the EU's major economies did not achieve positive progress in domestic climate change legislation in 2012, EU climate policy slowed down (e.g. Bals et al. 2013; for a comprehensive treatment, see Jordan et al. 2010).

In 2008, the EU decided to broaden its Emissions Trading Scheme (ETS) and incorporate emissions from international flights to and from Europe. Particularly China and India heavily criticised this step and ordered its airlines not to abide with the regulation (Eckersley 2013), *inter alia* arguing that this was a violation of the CBDR principle (Scott / Rajamani 2012). After rising protests from other countries, including the United States, the integration of international aviation in the ETS was postponed by one year in 2012 (Egenhofer / Alessi 2013), but the EU will bring it back on the agenda if the International Civil Aviation Organization (ICAO) does not deliver on developing a global scheme to reduce emissions from flights (European Commission 2012).[16]

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15 In 2008, the GHG emissions per capita ranged from 5.2 tonnes of CO_2 equivalent in Latvia to 25.8 tonnes of CO_2 equivalent in Luxembourg (EEA 2012).

16 ICAO was tasked to devise a strategy to reduce international emissions from aviation. International aviation and shipping were not included in the Kyoto Protocol because countries could not agree on where to allocate their emission (see also section 4.5).

During climate negotiations in 2009, the European delegation proposed to shift functioning parts of the Kyoto Protocol into a new global agreement. Developing countries rejected this, blaming the EU for trying to demolish the Kyoto Protocol and CBDR. In some ways changing its position, the EU agreed to a second commitment period of the Kyoto Protocol in 2011. Next to that, in what is described as part of a wider deal, the ADP was launched, which should work towards a 2015 agreement that comprises all parties (Torney 2013). In accordance with other industrialised states, the EU has demanded that a post-2020 climate regime should be based on a more differentiated interpretation of CBDR-RC (Winkler / Rajamani 2013). It hence expects developing countries with large amounts of emissions to implement mitigation measures (Torney 2013).

Already in 2008, the EU Council stated that developing countries as a group – in particular the most advanced among them – would have to limit their emissions by 15 to 30 per cent below their BAU projections for 2020, respecting the principle of CBDR-RC (Council of the European Union 2008, 6). The EU consequently is promoting a legally binding agreement comprising all major emitters (Torney 2013).

In recent preparations for discussions within the ADP, the EU stresses that the 2015 agreement should fully respect the principles of the convention and parties' common but differentiated responsibilities and their specific circumstances. Yet, each party should make commitments to limit or reduce its emissions. These commitments should be fair, adequate and ambitious contributions towards the collective objective to limit global warming to 2°C, in accordance with each country's responsibilities and capabilities as well as national circumstances and development needs. The EU is considering a step-wise approach that leads to inscripted commitments of all countries in a 2015 agreement. These can be different kind of commitments, but they should be transparent, quantifiable, comparable, verifiable and ambitious (EU 2013).

3.3.5 India

Poverty is widespread among India's 1.2 billion citizens and development issues continue to be the country's top priority. Climate change-related issues were long considered as mere side effects of other policies. Despite these challenges, India's economy has experienced high growth rates, leading to rising energy demand. Coal will be central in the development of the economy, leading to projections of high emission growth rates over the next decades. Currently, it is estimated that India contributes about 5 per cent of all global greenhouse gas emissions, ranking it fourth in the world in absolute emissions. However, its per capita emissions are only a fraction of those of developed countries, for example about a tenth of the per capita figures for the United States (Rastogi 2013).

India has long been advocating the CBDR principle and has resisted pressure from developed countries to accept a single framework for mitigation actions incorporating all parties (Raghunandan 2012). Being long *"glued to a do-nothing position"* (Raghunandan 2012, 126), a change in India's stance on climate change negotiations was first noted in 2008, when its National Action Plan on Climate Change was released (Rastogi 2013). Another important move was the commitment to voluntary carbon-intensity reduction targets of 20–25 per cent from 2005 levels by 2020, first announced in Copenhagen in 2009. Even though it is debated whether these targets will require additional efforts or be fulfilled while achieving economic progress and the associated rise in energy efficiency, this

showed a renunciation of India's mere focus on equal per capita emission rights (Shukla / Dhar 2011; Walsh et al. 2011). Jairam Ramesh, Minister of Environment and Forestry from 2009 to 2011, strongly contributed to this more pro-active role. Plans of Ramesh to give up India's traditional defensive position in international negotiations were, however, met with criticism, even from his own party and India's environmental non-governmental organisations, who feared financial and technological assistance was being put at risk (Michaelowa / Michaelowa 2011).

During negotiations about the Durban Platform for Enhanced Action at COP 17, India passionately emphasised the need to build the new talks on equity. After having received some support from other developing countries, including China, in the beginning (e.g. Khor 2012), India eventually stood alone with its rejection of negotiations on an agreement incorporating all parties. Many vulnerable developing countries also affiliated themselves with the EU in pushing India to agree (Rajamani 2012). In its recent submission on the work of the ADP, India did, however, re-emphasise that "applicable to all parties" does not mean a change to the annexes of the convention. In its view, Annex I parties have to continue quantified emission-reduction targets, whereas Non-Annex I parties – taking into consideration historical responsibilities and capabilities – will implement nationally appropriate mitigation actions facilitated through finance and technology transfer (Government of India 2013).

3.3.6 South Africa

In international comparison, the economy of South Africa is very energy-intensive. This is largely caused by the massive use of coal and a landscape of respective industries. At the same time, the country has had to deal with extensive socio-economic inequalities and development needs that originated during the time of apartheid (Winkler / Marquand 2009).

As a member of the BASIC group, South Africa shares some important characteristics and viewpoints with the other BASIC countries. Its distinct background, however, explains its specific position in climate change negotiations (Never 2012). Due to South Africa's lagging development status and comparatively high per capita emissions, it prefers a "multi-criteria approach" that takes into account historical emissions as well as human development and respective capacities (Hallding et al. 2011, 101).

To shifting to a less carbon-intensive economy, there is consensus that South Africa's emissions will need to peak no later than the 2020–2025 period and plateau before starting to drop (Winkler / Marquand 2009). In advance of COP 15 in Copenhagen in 2009, South Africa announced voluntary CO_2 emission-reduction targets of 34 per cent below BAU projections by 2020 (Death 2011), under the condition of an agreement on a global climate deal and international support (Vorster / Winkler / Jooste 2011). This national reduction target was met with scepticism by civil society groups, who suggested it was unrealistic (Death 2011). It was also harshly criticised by African civil society organisations, which blamed South Africa for breaking the "collective responsibility". They charged that the unilateral decision was giving rise to disunity within the continent as well as with the G77 and China (PANA 2008). The construction of new coal power plants and weak domestic environmental policies have also made it difficult to understand how the stated target can be achieved (Death 2011).

In contrast to South Africa's domestic performance, Death (2011, 469) acknowledges a *"successful global performance"* of South Africa in environmental politics. During UNFCCC negotiations, the country often takes on the role of a "bridge builder", both among parties of the G77 and between developing and industrialised states (Hallding et al. 2011, 54). South Africa favoured a new legally binding agreement at COP 17 in Durban (Rajamani 2012), after having already shown an interest in the idea earlier (Hallding et al. 2011). India and others opposed such an agreement, arguing that it would not be in line with the CBDR-RC principle (Rajamani 2012). This indicates that South Africa is approaching CBDR-RC more flexibly. This is also reflected in South Africa's call for legally binding, differentiated commitments for all parties (Government of South Africa 2013). In particular, the country is arguing for absolute emission-reduction targets for developed countries and relative targets for developing countries with deviations from BAU emissions (IISD 2013c, 8).

3.3.7 United States

The United States ranks at the higher end of GHG emissions per capita worldwide. In 2010, the average per capita emission was 21.6 metric tons of CO_2 equivalent (compared to, e.g., India 2.2; Brazil 8.3; China 8.3; South Africa 8.4) (EC JRC 2011). The United States is currently the second-largest emitter after China, in terms of cumulative emissions (World Bank 2013), and the largest historical contributor of greenhouse gas emissions (Ellermann / Höhne / Müller 2011). The largest share of US CO_2 emissions stems from electricity generation, which is to a large extent based on coal, and transport (EPA 2012). In an international comparison, US energy prices are low (IEA 2013), and energy use is high (World Bank 2013).

The United States was the major critic of the Kyoto Protocol (Honkonen 2009). In 1997 the US Senate adopted the Byrd-Hagel Resolution, which stated that the country would not participate in a climate change agreement without binding emission-reduction targets for developing countries (Eckersley 2013). The main argument was that the protocol – built on CBDR and implying that developing countries were exempt from binding targets – would lead to an unfair economic disadvantage (Honkonen 2009). The lion's share of future emissions growth would take place in developing countries, but these emissions were not covered under the climate regime. Although many developed countries acquiesced to this inevitable outcome, it opened a fault line between the United States and developing countries, especially China. Neither the Chinese nor the US governments wanted to accept what they perceived to be an unfair agreement, and both had diverging conceptions of *"what constitutes a level playing field"* (Harris / Symons 2013, 20).

Under the George W. Bush administration, climate change was not seen as constituting a substantial problem (Harrison 2007). The United States undertook basically no mitigation actions until Barack Obama entered the White House. He confirmed the GHG emission-reduction target of the United States of 17 per cent below 2005 levels by 2020, as was described by the Copenhagen Accord (Mehling / Frenkil 2013). Following that announcement, China and India likewise came up with national carbon-intensity reduction pledges (Brunnée 2010).

In June 2013, President Obama presented "The president's climate action plan", which includes targets and mitigation measures in various sectors. For example, energy-efficiency standards are supposed to reduce carbon emissions by a minimum of 3 billion metric tons cumulatively by 2030, and it is planned to double electricity generation from renewable energy by 2020 (The White House 2013). Critical voices, as for example the WWF, say that carbon cannot be reduced to the levels needed with this plan; nevertheless, it can be implemented without waiting for approval from the US Congress (Molho 2013).

In UN climate negotiations, the United States argues that developing countries should take on more responsibilities as they evolve and, hence, call for a more nuanced interpretation of CBDR and respective capabilities (Winkler / Rajamani 2013). In the draft decision of the Durban Platform, no reference was made to principles of equity and CBDR-RC, partly because the United States opposed any mention of it, whereas India, especially, strongly insisted on it and declared that if such a protocol was developed, it would be a dismissal of CBDR-RC. At COP 18 in Doha in 2012, the final text of the adopted work plan for the Durban Platform did not incorporate the principle itself (Khor 2012); it only stated that the outcome shall have legal force under the convention (IISD 2012, 2). In the view of several legal experts from developing countries, the mentioning of "under the convention" means that the outcomes must be consistent with CBDR-RC (Khor 2012, 99). The United States declared its disagreement: *"this* [...] *will not be the basis on which the US will engage in the work of the ADP"* (IISD 2012, 5).

In its submission to the UNFCCC on the 2015 agreement, it is suggested that commitments should be defined in a transparent way, individually by each party on the basis of national circumstances. The United States rejects incorporating existing annexes into the 2015 agreement, arguing that these would not reflect contemporary realities (United States Government 2013).

3.4 State of debate

CBDR continues to be a key notion under the UNFCCC, and all parties consider its underlying notion of equity to be important. Parties do, however, interpret the notion of CBDR differently, based on a variety of factors, such as historical responsibilities, capabilities, national circumstances and development needs. The Annex I / Non-Annex I dichotomy represents a static – and subsequently anachronistic – distinction that has proved to be overly simplistic and gives way to extreme positions that trouble constructive negotiations under the UNFCCC. Moving beyond this dichotomy is thus paramount to enable parties to differentiate responsibilities in a way that better reflects the diversification of state groups and country coalitions that negotiate under the UNFCCC, notably among developing countries.

Parties' different interpretations of the notion of CBDR are exacerbated by a tendency to wait for other parties to take on a larger role in mitigating greenhouse gas emissions under a prospective "post-Kyoto" international climate agreement. The examples in this chapter demonstrate that to come to an ambitious international climate agreement,

this top-down approach of international negotiations under the UNFCCC thus has to be supplemented by a process of domestic consultations, preparations and actions on mitigation. The EU also endorsed this in their preparations for the negotiations under the ADP, and the BASIC countries also considered it important for the Warsaw Climate Conference to *"encourage Parties to engage in domestic consultations and preparations, in the context of the ADP negotiations"* (BASIC Ministerial Meeting 2013). Indeed, the ADP negotiations in Warsaw resulted in a variety of decisions in which developed countries in particular are "urged" to take more voluntary action (UNFCCC 2013b).

Optimists could conclude that domestic climate policies are already thriving, simultaneously to the international climate regime, which is dominated by the North-South divide (see section 3.3; see also Hoffmann 2011). For example, Brazil made voluntary pledges to reduce its BAU emissions but declared that this type of commitment should not be seen as a parameter for other emerging economies (Kasa 2013; Viola 2013). South Africa wants to shift to a less carbon-intensive economy and stated that its emissions will need to reach a peak no later than 2020–2025 and plateau before starting to drop (Winkler / Marquand 2009). The United States is another example. Its continues to maintain the position that developing countries should take on more responsibilities as they evolve, and hence it is calling for a more nuanced interpretation of CBDR and respective capabilities (Winkler / Rajamani 2013). Yet, President Obama formulated a GHG emission-reduction target of 17 per cent below 2005 levels by 2020 (Mehling / Frenkil 2013). This target does not look very ambitious: it brings the GHG emissions of the United States more or less back to the level at the start of the climate negotiations in the 1990s. Yet China and India followed this announcement and, in different ways, came up with national carbon-intensity reduction pledges (Brunnée 2010). In addition, cities have come to the fore as prospective leaders of trans-national action on climate change (e.g. Bulkeley et al. 2011; Bulkeley / Schroeder 2012).

Yet, even the most ardent optimists will concede that domestic action alone is hardly sufficient.[17] It remains inconceivable to effectively limit global warming within the 2°C margin without an international climate regime that frames and supports global efforts to achieve commensurate emission limitations and reductions. Building on the normative and political framing of the notion of CBDR, as provided in this chapter, the next chapter analyses how CBDR-related challenges have been dealt with in other international regimes and policy arenas. Ultimately, the UNFCCC might benefit from the approaches as well as differentiation and participation mechanisms that are already guiding international cooperation across the North-South divide elsewhere.

17 Neither are they sufficiently obliging: as a case in point, Japan announced to amend its CO_2 reduction target for 2020 from -25 per cent compared to 1990 levels to -3.8 per cent compared to 2005 levels in the midst of ongoing negotiations at COP 19 in Warsaw (IISD 2013b).

4 Other manifestations of common but differentiated responsibilities

This section describes different manifestations of common but differentiated responsibilities under different international regimes. Again, we begin by reviewing: 1) the specific context of CBDR; 2) obstacles to bringing CBDR into practice; 3) the (potential) mechanisms to overcome those barriers, as proposed in the academic and public policy literature; and 4) the actual progress in overcoming barriers at the political level.

Potential mechanisms to overcome barriers in the adoption and implementation of CBDR are shown in coloured tables, and again subdivided into the three categories introduced in section 3.1 (Tables 1–3), albeit with slightly different connotations:

1. Approach: On which basis may CBDR be differentiated?

2. Differentiation: How can responsibilities be differentiated?

3. Participation mechanisms: How to ensure universal participation, that is, including parties with low development levels and limited capacities?

The different manifestations described here do not easily lend themselves to a methodologically rigorous comparison: they have different scopes and contexts, and the mechanisms to overcome barriers in one manifestation can thus not be simply transplanted to the context of the UNFCCC. Yet, the synopsis of observable (or potential) institutional mechanisms provides useful cues: the UNFCCC regime complex is rooted in the wider institutional context of the world economy and global environmental governance, and it may draw useful lessons from its institutional antecedents, neighbours and even younger siblings. In any case, the negotiating states are the same across different international regimes. Different international institutions invariably influence and shape each other over time, because no regime is constructed on a blank slate.[18]

To this end, the remainder of this chapter considers altogether six specific examples, in which we find different (mostly implicit) manifestations of CBDR. The UNFCCC's "sister conventions" are an obvious starting point: as with the UNFCCC, both the Convention on Biological Diversity (CBD) and the UNCCD were negotiated in the immediate context of the UNCED in 1992. In sections 4.1 and 4.2 we thus consider whether and how the principle of CBDR is reflected in these two convention processes. In section 4.3 we turn to the world trade regime and the operationalisation of "special and differential treatment" under GATT as governed through the WTO. Here, the conceptual label explicitly differs from CBDR, yet the underlying logic also addresses differences in developed countries and developing countries in view of multilateral trade policies. Section 4.4 reviews the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol, which are widely perceived as institutional role models for the UNFCCC regime. Section 4.5 reviews ongoing negotiations on the issue of greenhouse gas emissions from so-called bunker fuels, which are closely linked to international climate negotiations. Here, the specific circumstances of maritime transport and aviation add another layer of complexity to

18 For theoretical foundations, refer to historical and sociological institutionalism, e.g. Braudel (1958), March and Olsen (1989), Pierson and Skocpol (2002), Thelen (2003), Steinmo (2008); applied to the UNFCCC, see also Depledge and Yamin (2009).

the differentiation between developed countries and developing countries and, for that matter, the attribution of emissions. Finally, section 4.6 considers the relevance of CBDR in the burgeoning negotiation of Sustainable Development Goals (SDGs) that follows from the 2012 "Rio+20" summit (the United Nations Conference on Sustainable Development). The envisaged SDGs are supposed to be universally applicable, yet the envisioned operational targets should be commensurate to different national and regional circumstances.

4.1 Example 1: Convention on Biodiversity

Apart from climate change, the loss of biodiversity is arguably the most pressing global environmental problem caused by human activities, with land-use change being its main driver (MEA 2005, 8). The global public good of biodiversity is threatened by ignorance of both its positive externalities – that is, third-party ramifications – and its private benefits. When adopting the CBD, international policy-makers recognised that biodiversity requires an international effort for protection and took first steps to acknowledge the private benefits of biodiversity with the concept of access and benefit-sharing (ABS). This specifically envisions a market-based system for regulating the conservation and the use of genetic resources. The ABS concept formally establishes a market for biodiversity by acknowledging its value for research and development and by requiring fair and equitable benefit-sharing. Today, the CBD, with 193 signatories, is still the key convention on biodiversity – despite the evolvement of many other biodiversity-related conventions and agreements (Rosendal / Schei 2012).

Problem

Generally speaking, most biodiversity is found in the southern hemisphere, particularly in developing countries. Yet, remaining and valuable parts of biodiversity are often under high pressure, with the greatest threat to biodiversity being human-induced destruction of habitats for the purpose of converting forest into agricultural land. Developing countries usually lack the capacity and financial resources to protect biodiversity. At the same time, most of these resources are being used and processed in the northern hemisphere, in industrialised countries, which have already lost much of their biodiversity. The historical responsibility to finance biodiversity protection is with the industrialised countries, and so is the responsibility to share the benefits arising from its utilisation. According to the CBD, countries that still have biodiversity should go *"as far as possible and as appropriate"* and *"in accordance with particular conditions and capabilities"* to protect biodiversity (see e.g. CBD Articles 5–9). Developed countries have to support developing countries in their endeavours. However, the world's political landscape has changed. Many developing countries have become middle-income countries. Accordingly, users of biodiversity (e.g. biotechnology and pharmaceutical industries) increasingly come from developing and middle-income countries.

Differentiated responsibilities

Even as CBDR is not explicitly comprised in the convention text of the CBD, it is implicitly acknowledged and manifested. The CBD's preamble stipulates that the conservation

of biodiversity is a common concern of humankind, but it also reaffirms states' sovereign rights over their own biological resources (UN 1992b; see also Kellersmann 2000).

When it comes to differentiated responsibilities, the CBD draws a simple picture. Developing countries have to protect biodiversity, but developed countries have to pay for it. According to Article 20 on financial resources (UN 1992b):

> *The developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures which fulfil the obligations of this Convention and to benefit from its provisions* […].

Furthermore:

> *The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties.*

Apart from the financing issues, the CBDR logic can also be found in the establishment of a fair and equitable ABS system. ABS is a market-based approach that tries to allocate an economic value to biodiversity based on its genetic properties and to facilitate the participation of developing countries in the benefits that arise from the commercial utilisation of biodiversity and genetic resources from their territory (e.g. pharmaceutical products based on plant genetic material). According to the CBD, monetary and non-monetary benefits (e.g. joint research, technology transfer) should be shared with developing countries.

Although ABS is an institutionalised mechanism under the CBD, developing countries have hardly benefited from it (Richerzhagen 2010). The negotiations on how to improve ABS under the CBD took more than six years (2004–2010) and culminated in the adoption of the Nagoya Protocol on ABS.

Progress

The way biodiversity is looked at internationally has changed. Whereas in 1992 biodiversity was the subject of concern, more emphasis is now put on the economic aspects of biodiversity (see e.g. TEEB 2011). The CBD appears to be a dynamic convention and has continuously been advanced at the biannual Conferences of the Parties. During COP 10 in Nagoya, agreements were reached on decisions with far-reaching consequences. Countries negotiated the Nagoya Protocol on ABS, a new strategic plan for biodiversity protection (so-called Aichi targets) as well as a strategy for resource mobilisation. The protocol will enter into force 90 days after the date of deposit of the 50th instrument of ratification, but so far only 18 countries have ratified it. Notably, the convention's 2010 Nagoya Protocol does not reiterate the CBD's language, whereby *"biological diversity is a common concern of humankind,"* but it explicitly recognises *"the interdependence of all countries with regard to genetic resources for food and agriculture"* (Sands et al. 2012, 234). This expression emphasises the economic importance of biodiversity for well-being.

In contrast to the CBD, the Nagoya Protocol no longer distinguishes between developed and developing countries, but categorises countries as "user" and "provider" countries of biodiversity, implicitly acknowledging the recent shifts of economic development. The protocol furthermore differentiates between LDCs, SIDS and economies in transition. Tables 6 and 7 present overviews of the differentiation and participation mechanisms under the CBD.

Table 6: Differentiation mechanisms reflecting CBDR under the CBD

	Mechanism	Described by	Explanation
Differentiation[19]	Benefit-sharing (CBD Art. 15.7)	UN (1992b)	Industrialised states have to share the benefits arising from the commercial use and other utilisations of genetic resources with developing countries.

Source: Authors' compilation

Table 7: Participation mechanisms reflecting CBDR under the CBD

	Mechanism	Described by	Explanation
Participation mechanism	Facilitate access and transfer of technology (CBD Art. 16)	Kellersmann (2000)	Industrialised states have to facilitate the access and the transfer of technologies necessary for the preservation, the sustainable use, as well as the utilisation of advantages of biotechnology.
	Financial support (CBD Art. 20/21)	Kellersmann (2000)	Industrialised states have to transfer financial resources in order to cover incremental costs, which developing countries incur in order to fulfil their obligations under the agreement.
	Exchange of information / technical and scientific cooperation (CBD Art. 17/18)	UN (1992b)	Industrialised states should facilitate the exchange of information relevant to the conservation and sustainable use of biodiversity and promote technical and scientific cooperation with developing countries.
	Research /emergencies (Nagoya Protocol Art. 8)	UN (2011)	Industrialised states should promote research and access to treatment by developing countries.
	Capacity / financial resources (Nagoya Protocol Art. 22/25)	UN (2011)	Industrialised states should support capacity-building, capacity development and strengthening of human resources and institutional capacities to effectively implement the protocol in developing country, LDCs, SIDS and economies in transition.

Source: Authors' compilation

19 One could argue that this is a compliance mechanism. In this report it is considered "differentiation", as it is not a mechanism where resources, technology or knowledge is transferred from industrialised states to developing countries to help them comply, but a mechanism that causes differentiation when it comes to benefit-sharing. Developing countries could also benefit from commercial and other (domestic) utilisation of genetic resources, but they do not have the obligation to share this with industrialised countries.

4.2 Example 2: UN Convention to Combat Desertification

Not adopted at UNCED, but negotiated as a result of it, the UNCCD reflects the "spirit of Rio" like no other comparable document, both in style and in substance (see Bruyninckx 2006). Indeed, it is often even referred to as a sustainable development convention rather than as an environmental treaty. As one consequence, the dichotomy between developed countries and developing countries has been particularly pronounced from the outset, notably where the implementation of the convention is concerned. At the same time, the UNCCD's explicit distinction of "affected country Parties" (see UNCCD 1994, Art. 1) does not exclusively relate to developing countries in the context of desertification, dryland degradation and drought, but also relates to developed countries, including, for instance, large OECD countries such as Australia, Spain and the United States.

Problem

The relevance of CBDR should be self-evident for the UNCCD, and the notion is implicitly visible throughout the UNCCD, but it is rarely referred to as an explicit concern in the implementation of the convention. It merely translates into an explicitly asymmetrical attribution of state obligations along the traditional developing / developed country fault line. This has originally been interpreted as an exceptionally strong showing of bargaining power by the "Southern collective", as represented by the G77 (Najam 2004).

As with both the CBD and the UNFCCC, the UNCCD asserts the protection of a global public good even as it ultimately needs to be provided at a national or local scale. Therefore, and unlike the CBD and UNFCCC, the globality of dryland degradation is not as straightforward as in the cases of biodiversity loss and climate change. Hence, and in spite of the convention's universal membership, the global scope of the UNCCD has always been contested (Bauer 2007). As a result, an operational application of CBDR to the implementation of the UNCCD becomes much more complicated upon second glance.

Differentiated responsibilities

Article 4 of the convention specifically underscores the general obligations – and thereby, as it were, common responsibilities of all parties – while singling out affected developing country parties as *"eligible for assistance"* (UNCCD 1994, Art. 4.3). Articles 5 and 6 spell out further obligations of any affected country parties and developed country parties, respectively. At the same time, the explicit prioritisation of the African region in the convention title ("...particularly in Africa") and in Article 7 ("Priority for Africa") as well as the UNCCD's particular "Regional Annexes" could in themselves be interpreted as an expression of differentiated responsibilities.

Still, the UNCCD *"only mirrors the concept of CBDR to a very low degree"* (Kellersmann 2000). This is ironic, as the emphasis on the African region as well as the regional annexes strongly reinforce the notion that desertification manifests differently in different places. This would logically require different parties to accept different responsibilities in addressing the problem, at least in theory. In practice, however, the implementation of the UNCCD largely depends on existing frameworks and means of official development assistance. Arguably, a possible differentiation of dryland-specific responsibilities is thus prevented by the conventional logic of North-South transfers and the contested globality of "desertification".

Progress

Generally speaking, progress in implementing the UNCCD has been cumbersome and tenacious from the outset (see Toulmin 2006; Stringer 2008). With a view to the principle of CBDR, and in light of the above, it would seem that the UNCCD is an obvious candidate to experiment with the principle's practical implementation, but parties have either failed to recognise this or purposefully avoided it for the sake of familiar patterns of North-South bargaining. For the time being, no progress is thus discernible in how CBDR may inform – or even guide – further negotiations under the UNCCD, let alone its implementation. As it were, the normative potential of CBDR is hardly employed under the UNCCD, in spite of its strong "Rio" rhetoric. Although it is conceivable to push for a stronger reflection of CBDR on the agenda of UNCCD negotiations – for instance, where technology transfer is concerned – this does not seem likely. Respective proposals might effectively equal a call to renegotiate the convention as such.

With a view to financial responsibilities, it can be argued that granting UNCCD-related projects eligibility for funding through the Global Environmental Facility (GEF) was a significant concession of developed countries to the advocates of the UNCCD in developing countries and within the United Nations (UN) system. By eventually expanding the GEF's portfolio with an operational programme on land degradation, donor countries effectively acknowledged land degradation to be of global concern and addressed, at least indirectly, the perceived gap in funding for the implementation of the UNCCD. African countries in particular, as well as the UNCCD Secretariat, had pushed for this, ever since the GEF was first established in 1994 (Bauer 2009).

Table 8: Differentiation mechanisms reflecting CBDR under the UNCCD

	Mechanism	Described by	Explanation
Differentiation	Eligibility for assistance (UNCCD Art. 4.3)	UNCCD (1994)	The convention distinguishes developed country parties from developing country parties as well as between affected (i.e. by desertification) country parties and non-affected country parties. Parties that are both affected countries and developing countries *"are eligible for assistance in the implementation of the Convention."*
	Differentiated obligations (UNCCD Art. 5 and 6)	UNCCD (1994)	The convention specifies distinct obligations for affected country parties under Article 5 (e.g. "*give due priority to combating desertification and mitigating the effects of drought"*) and for developed country parties under Article 6 (e.g. *"actively support* [...] *the efforts of affected country parties"; "provide substantial financial resources and other forms of support"*).
	Regional differentiation (UNCCD Art. 7 and Regional Annexes)	UNCCD (1994)	The convention explicitly singles out Africa as a priority region (UNCCD Art. 7) and furthermore entails five regional annexes that specify the "particular conditions" for the regions of I. Africa; II. Asia; III. Latin America and the Caribbean; IV. Northern Mediterranean; and V. Central and Eastern Europe, and spells out regional needs and guidelines for the respective affected country parties.

Source: Authors' compilation

Table 9: Participation mechanisms reflecting CBDR under the UNCCD		
Mechanism	**Described by**	**Explanation**
Financial support	Kellersmann (2000); Falloux, Tressler and Mayrand (2006); Bauer (2009)	Developed country parties *"are legally obliged to make significant financial assets available for the purposes of compliance assistance"* (Kellersmann 2000). However, no criterion is provided in order to more specifically determine the extent of this obligation. The UNCCD's own Global Mechanism is in itself not a financing mechanism, but *"instead designed to mobilise, channel, and coordinate financial flows"* (Falloux / Tressler / Mayrand 2006) according to the convention's needs. Yet, expanding the portfolio of the GEF to include an operational programme on land degradation can be interpreted as a concession of donor countries *vis-à-vis* the UNCCD (Bauer 2009).
Technology transfer	Kellersmann (2000)	Industrialised states are obliged to transfer technologies that support combating desertification. However, in contrast to other provisions, this obligation does not require parties to take *"all practicable steps"*.
Promote technical and scientific cooperation	Bauer and Stringer (2009); Grainger (2009)	Article 17 of the convention calls for the promotion of technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought *"according to parties' 'respective capabilities' "*. Indeed, a huge body of international scientific expertise could help to operationalise the UNCCD's normative provisions for on-the-ground implementation. However, the institutional interface between the political convention process and the scientific community is inadequate to harness this potential.
Implementation of regional annexes	UNCCD (1994)	Regional annexes specify different regional contexts in fighting dryland degradation and desertification. Theses annexes could provide a basis to reflect CBDR within the regions as well as between the regional and the international levels (multilevel governance).
Source: Authors' compilation		

4.3 Example 3: GATT and the World Trade Organization

The notion of CBDR can also be detected outside the environmental realm. The WTO agreements include numerous provisions that grant developing countries special benefits, technical assistance, longer transition periods and/or less stringent obligations.[20] The example of these WTO provisions for special and differential treatment (SDT) for developing countries can be singled out as exhibiting a significant normative overlap with CBDR under the UNFCCC and is therefore also included in this subsection. Both the climate change and trade regimes explicitly acknowledge differences in capacity and development needs and relate them to the obligations of their constituents, that is, member states.

20 See also Keck and Low (2004), Hoekman (2005) and Pauwelyn (2013).

In the WTO, the challenge is not one of fairly allocating the burden of mitigation and adaptation costs or commitments, but of *"levelling the playing field to ensure fair competition and an equitable distribution of the short-term costs of trade liberalisation"* (e.g. Torres 2012). For instance, the act of opening markets generates adjustment costs, as resources move from one sector to another, which has particularly harsh impacts in developing countries, and therefore special rules for them are justified (Brandi 2010, 207).

In the beginning, the multilateral trading system put countries on comparatively equal footing, in terms of the obligations, and foresaw only very few exceptions. In 1964, a new amendment on trade and development to GATT 1947 included non-reciprocity and special provisions for less-developed countries and, in 1979, the adoption of the so-called Enabling Clause, which allowed for differential and more favourable treatment of developing countries in a number of ways (see also Table 9). In 1994, the newly adopted Agreement Establishing the World Trade Organization ("the WTO Agreement") incorporated the principle of "single undertaking" into the multilateral trading system, which implied the end of an opt-out option: all WTO members had to accept all agreements, which generated a number of new commitments for developing countries. Yet, the 1994 WTO Agreement also includes numerous special provisions for developing countries. The chapeau of the WTO Agreement cites sustainable economic development as one of the objectives of the WTO and specifies that international trade should benefit the economic development of developing and least-developed countries.

There are important similarities between the UNFCCC and the WTO. International trade and climate change are the two single issue areas that have major implications for quite broad areas of the economies of the involved parties. The stakes in both issue areas are very high, potential costs of compliance are very high and an endless number of many different kinds of interest groups are involved. At the same time, there are key differences between the trade and the climate realm.

Firstly, the starting idea of the WTO has always been trade without discrimination (and thus without differentiation). Non-discrimination means that WTO member countries must not discriminate between their trading partners nor between imported and local goods once the former have entered the domestic market. In the WTO, non-discrimination is thus the rule, with limited exceptions for differentiation. One could argue that this occurs the other way around in the climate regime.

Secondly, at least to some extent, special and differential treatment for developing countries can be enforced on the basis of the WTO Dispute Settlement system. So far, only the famous "US Shrimp-turtle" case has explicitly referred to the CBDR principle, whereas other cases discuss differentiation between countries based on their "capabilities" and do not really look at the "responsibility" side of the equation (Gupta / Sanchez 2012, 6).[21] For instance, the WTO panel has stated that it will accept *"the*

21 Most of these cases focus on rapidly developing countries and emerging markets rather than poorer developing countries. The "Shrimp-turtle" case, brought by India, Malaysia, Pakistan and Thailand

need of developing countries to promote their industry in acquiring a share of the international market," but it views such *"differentiation as temporary and dynamic and needing to respond to changing developing country circumstances"* (Gupta / Sanchez 2012, 6, 17).

Some commentators argue that another difference in the case of trade lies in the limited applicability of the argument, whereby *"developed countries have a moral responsibility to pay a disproportionate share of the costs of collective action"* and *"take the lead on account of past actions"* (Eckersley 2009, 13). From that perspective, *"the climate regime provides a stronger challenge than the trade regime to the traditional principles of liberal contractualism, grounded in reciprocity, that formally underpin international treaty-making"* (Eckersley 2009, 13). Yet, one might also make the case that, in the context of the WTO, developed countries also have a moral responsibility to shoulder a substantial, if not "disproportionate", part of the costs of collective action (Brandi 2010). The latter position could, for example, be defended on the basis of the argument that developed countries benefit disproportionately, or that developing countries face higher adjustment or implementation costs on the basis of a partial historical responsibility for the current situation, for example against the background of colonisation, etc.

Problem

The implications of SDT for developing countries remain contested. Some critics continue to question its rationale and practical effectiveness in supporting development (cf. Mitchell / Voon 2009). For instance, some development economists are wary of certain special and differential treatment provisions, including trade preferences, and argue in favour of non-discriminatory market access (e.g. Hoekman 2005).

At the same time, the preferential market access granted to developing countries has so far been much less effective than expected because of the way in which it has been implemented. For example, preferences for the goods for which developing countries have a comparative advantage have often been limited or exclude items of interest to developing countries. Moreover, one of the major drawbacks of preferences is that they are uncertain. They are unpredictable due to frequent renewals or arbitrary conditions for eligibility and subject to unilateral change or withdrawal and to conditionality (Özden / Reinhardt 2003). In addition, exporters in developing countries find the transaction costs of the certification process too heavy in relation to the saved preferential margin (Mattoo / Subramanian 2004). Finally, many developing countries are unable to comply with rigorous rules of origin, which may be so strict that countries

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against the United States, deals with the question whether the use of specific fishing nets can be required by the United States in order to protect the turtle species. In its final ruling (1998), the Panel recognised the need to protect the turtles but saw the US measures as unilateral, arbitrary and unjustifiable, and called for greater cooperation between the United States and the other states in order to find ways to protect the turtles – thus recognising that there were common but differentiated responsibilities in protecting them (Gupta / Sanchez 2012, 15f.).

are forced to pay the "normal" most-favoured-nation tariff because they cannot satisfy the relevant requirements (Brenton 2003).[22]

Differentiated responsibilities

In the WTO, countries are distinguished in terms of whether they belong to the group of developed countries or the group of developing countries; the latter also encompasses the group of LDCs.[23] As mentioned above, the Enabling Clause of GATT gives developed countries the legal right to provide SDT to developing countries in terms of trade policy (see Table 10 below). However, the Enabling Clause does not allow for more fine-grained differentiation, as it requires that all developing countries be treated the same way in terms of market access; the exception are LDCs under the UN definition, which may be entitled to additional benefits.

One major problem is that the right to make use of SDT is based on a country's own self-assessment rather than on some sort of quantifiable criteria. In contrast to the list of Non-Annex I (developing) parties in the UNFCCC, the WTO does not have an official list of developing countries (Pauwelyn 2013). Any member can claim to be a "developing country" and remain at that stage, which automatically entitles them to the benefits of SDT.[24] Since there are no graduation criteria for SDT, unsurprisingly, no developing country has ever felt the urge to give up its advantages (Torres 2012).

However, least-developed countries are automatically growing outside the LDC category and lose their additional preferential treatment in the WTO as soon as their per capita income surpasses a certain threshold (Torres 2012).

Since no country has ever graduated from the group of "developing countries" in the WTO, this grouping has become increasingly heterogeneous over the years. The greater diversity of the group of developing countries is one of the major obstacles to faster progress in the Doha Round (e.g. Brandi / Helble 2011). As developing countries in former GATT times used to have small markets, developed countries did not hesitate to offer them a free ride on their market liberalisation. In the meantime, however, some poorer WTO members have grown so substantially that their markets are considered to be too large for free-riding, and developed countries hesitate to offer them market access without receiving reciprocal market-access concessions in return – which, in turn, makes it more difficult to come to an agreement between these member states.

22 Rules of origin are used to determine the country of origin of a product for purposes of international trade. In the case of trade preferences, the rules of origin determine what products can benefit from the preference at stake. For many poorer exporters, in practice, many rules of origin are defined such that they can hardly be attained, demanding, for instance, that half or more of the value of the product must be locally produced.

23 The WTO Agreements also include special phase-in periods for economies in transition (Pauwelyn 2013).

24 Currently, the WTO has 160 members, of which fewer than a quarter are developed countries.

Table 10: Examples of differentiation mechanisms reflecting special and differential treatment under the WTO

	Mechanism	Described by	Explanation
Differentiation	Non-reciprocity / Reduced levels of reduction commitments	GATT Part IV (1964)	Part IV of GATT includes provisions on the concept of non-reciprocal preferential treatment for developing countries – when developed countries grant trade concessions to developing countries, they should not expect the developing countries to make matching offers in return. However, many developing countries claim that this has little practical value, as it does not contain any obligations for developed countries.
	More favourable treatment	GATT Enabling Clause (1979)	The Enabling Clause (officially called the "Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries"), adopted under GATT in 1979, enables developed member states to give differential and more favourable treatment to developing countries (e.g. discriminatory tariff schemes to favour imports from developing countries).
	Proposal: Special and differential treatment for an "LDC+" group	e.g. Hoekman, Michalopoulos and Winters (2003)	Some experts propose that an "LDC+" group of small and poor developing countries, determined by size and per capita criteria, should by and large capture those countries in real need of SDT across all WTO agreements.
	Proposal: "Characteristic-based approach" / Situational approach to special and differential treatment / Implicit threshold approach	e.g. ICTSD (2007); Corrales-Leal, Baritto and Mohan (2007); Stevens (2002)	According to the proposal, any WTO member whose share of world trade is below certain specified thresholds would be allowed to access a special set of rules. In the context of the Doha negotiations, such a proposal gained relatively wide support from the WTO membership. The approach represents one of the first times that the WTO membership has supported triggering SDT through the satisfaction of a measurable requirement, rather than targeting special and differential treatment at the traditional categories of developed, developing or LDC member.
	Proposal: Assistance on the basis of needs assessments	e.g. Wang and Winters (2000); Prowse (2002)	Wang and Winters (2000) and Prowse (2002) propose SDT involving an assessment of the costs and the capacities of countries to implement WTO agreements, on the basis of which a time interval would be determined during which the country is exempted from the rules, and a tailor-made programme of technical assistance and capacity-building is provided by a broad range of relevant donors. Others argue that assistance and capacity-building should complement special and differential treatment, but that it cannot substitute for a set of legally enforceable provisions (Keck / Low 2004)

Source: Authors' compilation

Table 11: Examples of participation mechanisms reflecting special and differential treatment under the WTO			
	Mechanism	**Described by**	**Explanation**
Participation mechanism	Longer transition periods	e.g. Keck and Low (2004)	A number of WTO rules offer longer transition periods, especially for LDCs, to provide developing countries with more time to implement and adapt to new trade rules.
	Technical assistance, Aid for Trade	e.g. WTO (2006); OECD and WTO (2009)	Many WTO agreements provide for technical assistance to developing countries. The WTO Aid for Trade initiative was launched at the Hong Kong Ministerial Conference in December 2005 and includes five categories: support for trade policy and trade regulation; trade development; trade-related infrastructure; productive capacities; and trade-related adjustment.
	Privileged market access	e.g. GATT Enabling Clause (1979)	Rich countries and some emerging powers offer poorer developing countries preferential (i.e. more favourable) market access arrangements intended to create opportunities for jobs, exports and investment. For example, under the EU's Everything But Arms initiative, all imports to the EU from LDCs are duty free and quota free, with the exception of arms.
Source: Authors' compilation			

Progress in the implementation of special and differential treatment

In 2001, member governments agreed that all SDT provisions should be reviewed with a view to strengthening them in the context of the WTO Doha Round negotiations. More specifically, the aim is to identify which SDT provisions are mandatory, to consider the legal and practical implications of making mandatory those which are currently non-binding, and to explore ways in which developing countries, particularly the LDCs, may be assisted to make best use of SDT.

It is without question that SDT alone cannot resolve the challenges at the intersection of trade and development. Still, in the context of the recently revived Doha Round, members should seek to agree on more concrete SDT provisions than are at present contained in the WTO agreements. Ideally, making progress should be based on careful economic analysis to make out quantifiable criteria for offering SDT to particular countries under specific circumstances (Mitchell / Voon 2009).

4.4 Example 4: Montreal Protocol on Substances that Deplete the Ozone Layer

The international acknowledgement of the global problem of ozone layer depletion through the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol that followed as a response have strongly influenced the emerging political dynamics of climate change and its regime design (Depledge / Yamin 2009). Scholarship often examines lessons that could be drawn from the successful international negotiations and policies of the international ozone regime with regard to international climate change negotiations (see e.g. Barrett 2003; Smith 2010; UNEP 2009; Zang 2009). While it is acknowledged that the context for the ozone and climate regimes are fundamentally different, and that the scope of economic activi-

ties concerned and the amount of financing needed is much higher in the case of climate change, the experience of the Montreal Protocol is still instructive (see e.g. UNEP 2009).

The Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol do not use the wording of CBDR. They were adopted in 1985 and 1987, respectively, that is, before CBDR ermerged as an explicit concept in international law. However, Article 5 ("special situation of developing countries") does include special rights for developing countries whose annual calculated level of consumption of listed controlled substances is less than 0.3 kilograms per capita on the date of the entry into force of the protocol (UNEP 2000). From 1992 onwards, following the adoption of the Rio Declaration, the UNFCCC and the formulation of CBDR, meetings of the parties to the Montreal Protocol have often referred to the principle as a way to express the differentiation put in place in the treaty (Deleuil 2012).

Indeed, developing countries have successfully pressed for the establishment of a special fund to help them implement the Montreal Protocol, arguably demonstrating an increased bargaining power of the "global South" in the environmental realm (Sell 1996; Biermann 1998). What is more, the fund proved a major key to the successful implementation of the protocol and thereby demonstrated the utility of acknowledging different capabilities and, indeed, addressing them through an unprecedented willingness of major developed country parties to invest in the technical and financial capacities of developing countries (Wettestad 2002; Bauer 2009). Accordingly, negotiations under the Montreal Protocol have often referred to CBDR as a guiding principle once it was established in the Rio Declaration and the UNFCCC (Deleuil 2012).

Problem

Initially, only 24 countries and the European Commission signed the Montreal Protocol in 1987; including virtually all developed countries. These countries accounted for the vast majority of global production of CFCs (see Figure 6), but they did not include many of the major developing countries with rapidly emerging economies, such as India and China (Smith 2010). These two countries refused to participate in the Montreal Protocol until a fund was established to help developing countries find and implement alternatives to CFCs. Even then, North-South differences were perceived as the main obstacle to "smooth sailing" regarding the otherwise remarkably effective implementation of the Montreal Protocol (Wettestad 2002).

Differentiated responsibilities

Table 12: Mechanisms reflecting CBDR in the Montreal Protocol and its amendments

	Mechanism	Described by	Explanation
Approach	Finish facilities under construction[25]	Honkonen (2009)	Parties not falling under the developing countries, but with CFC plants under construction, were allowed to finish these. Additional production from such facilities was allowed to count as part of 1986 production and consumption. This concession was included for countries with economies in transition.

Source: Authors' compilation

25 This allowance is labelled as an "approach", as it deals with the way in which industrial plants are treated even before responsibilities are differentiated among different countries.

Table 13: Differentiation mechanisms in the Montreal Protocol

	Mechanism	Described by	Explanation
Differentiation	No voluntary undertakings vs. mandatory commitments	Smith (2010)	Developing countries were given an additional 10 years to meet their commitments, but there was no "invidious" distinction between some countries' undertakings being voluntary, while others had mandatory commitments. This has minimised the tension between developing and developed countries.
	Different base years for countries and substances[26]	Honkonen (2009)	Countries had different base years determining the phase-out commitments: industrialised countries had 1986, whereas developing countries were allowed to use the average of its annual calculated level of consumption for the period 1995–1997 for certain controlled substances, and the average of its calculated level of consumption for the period 1998–2000.
	Grace period	Davidson Ladly (2012)	Article 5, paragraph 1 provides delayed compliance for developing countries if a country's per capita consumption of certain controlled substances was below a threshold (a proxy for economic development). The 10-year grace period that was arranged made it possible to require developing countries to meet the same obligations as developed countries.

Source: Authors' compilation

Table 14: Participation mechanisms in the Montreal Protocol

	Mechanism	Described by	Explanation
Participation mechanism	Satisfy basic domestic needs	Honkonen (2009)	Article 5 parties were allowed to exceed most production restrictions and prohibition, by no more than 10 per cent, in order to satisfy the "basic domestic needs" of developing countries, or for the purposes of "industrial rationalization between Parties". The former term caused considerable debate, as some countries also considered export as a basic domestic need. In 1989 it was decided that developing countries were not allowed to export ozone-depleting substances if they wanted to continue to benefit from the 10-year grace period.
	Critical use exemptions	Honkonen (2009)	Many of the Montreal Protocol's phase-out regulations allowed for the continued production and consumption of the controlled substances for certain "essential" uses, for example, necessary for health, safety, or critical for the functioning of society, with no technically and economically feasible alternatives or substitutes that are acceptable from the standpoint of environment and health. This loophole has, however, not been broadly applied.

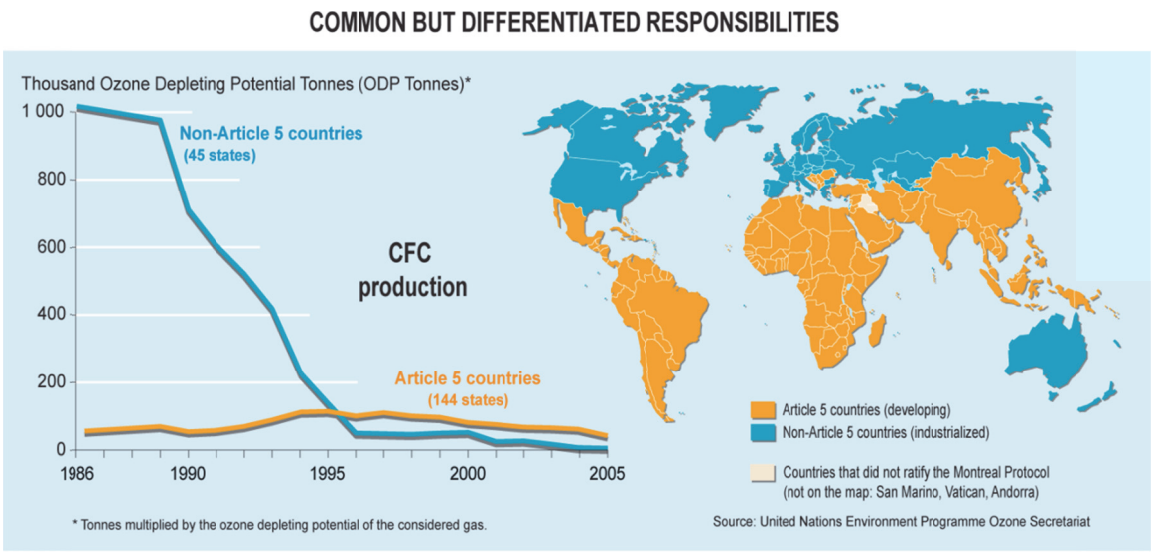
26 This mechanism was labelled under "differentiation" because of its different treatment of different CFCs.

Table 14 (cont.): Participation mechanisms in the Montreal Protocol			
	Mechanism	**Described by**	**Explanation**
Participation mechanism	Multilateral fund	Davidson Ladly (2012); Smith (2010); Biermann (1997)	At the London Ozone Conference in 1990, a special fund was created to help developing countries to implement the Montreal Protocol. The participants in the London meeting estimated that a fund of slightly over $200 million would be needed in the initial years of the transition, and the US share, based on a UN assessment formula, would be 25 per cent of that amount. During the 1991–2005 period, total pledges to the fund amounted to $2.1 billion. The creation of the fund was critical in persuading major developing countries, particularly India and China, to become parties to the protocol.
	Joint fulfilment of commitments	Honkonen (2009)	Members of the European Community secured the option to fulfil their Montreal Protocol commitments jointly, based on the condition that the aggregate calculated levels of ozone-depleting substances consumption of the member states would not surpass required levels.
Source: Authors' compilation			

Progress in the implementation of the Montreal Protocol

The push for an assistance fund helped to embed the notion of industrialised country responsibility in international environmental politics (Stalley 2013). In the 1990s, the negotiations shifted from the need to secure the participation of developing countries to the consequences of their participation. The consequent "Grand Bargain" (Hoffman 2005, 120) that was struck at the London Ozone Conference in 1990 – participation in exchange for development assistance – enshrined the CBDR principle and solidified an altered set of expectations about the appropriate way to address global environmental problems (Hoffman 2005).

Figure 6: Emission of ozone-depleting substances by Article 5 and Non-Article 5 countries



Source: UNEP (2007)

The Montreal Protocol is now considered a landmark in global environmental negotiations that has successfully reduced the global production, consumption and emissions of ozone-depleting substances (Velders et al. 2007; Smith 2010). It is also an early and significant example of how the principle of CBDR may be operationalised (Davidson Ladly 2012) (see also Figure 6).

4.5 Example 5: Bunker fuel emission control in shipping

The Kyoto Protocol identified the need to regulate CO_2 emissions from bunker fuels, yet international aviation and shipping are not included in the protocol because countries could not agree on where to allocate their emission.[27] Therefore, the International Civil Aviation Organization and the International Maritime Organization (IMO) were tasked to devise a strategy to reduce international emissions resulting from the combustion of their so-called bunker fuels. This is significant for global climate policy because emissions from international aviation and shipping are the fastest-growing source of global greenhouse gas emissions.[28] There is broad-based consensus among developed and developing countries as well as industries that bunker fuel emissions must be controlled – the issue is the approach (Project Catalyst 2009; UNFCCC 2012a; Government of Cyprus / EC 2012). This example contrasts with the other examples in this subsection, as it deals with climate change directly, and its international negotiations have started more recently. This discussion paper discusses bunker fuel emission control in shipping rather than aviation, as the IMO is ahead of ICAO[29] in its development of a global market-based mechanism that reduces emissions and takes the notion of CBDR on board.

Progress is said to have been too slow (see e.g. T&E 2009), but from 2013 onwards, IMO implemented mandatory measures to reduce greenhouse gas emissions from international shipping for all ships, representing the first-ever mandatory global greenhouse gas reduction regime for an international industry sector (IMO 2011b). Yet, the technical and operational measures included in the so-called MARPOL (International Convention for the Prevention of Pollution from Ships) amendments are not sufficient to meet the overall reduction objectives indicated by scientific research, and IMO therefore concluded that a global market-based measure (MBM) is also needed to reduce emissions from shipping (IMO 2011a).

Problem

Yet there are conflicting views among IMO member states on the interpretation of CBDR within this MBM, and its precedence over – or subordination to – IMO's principle of equal treatment of ships has caused a deadlock in the discussions on how to meet

27 Bunker fuels are technically any type of fuel used aboard ships. Its name comes from the containers used to store fuel onboard or in ports. The name subsequently came to be applied to aviation fuel as well (T&E 2009).

28 According to Project Catalyst (2009), the emissions from aviation and shipping are estimated at about 2.5 gigatons per year by 2020, that is, as much as the emissions of the entire Middle East.

29 In October 2013, ICAO agreed to develop by 2016 a global market-based mechanism that addresses international aviation emissions and apply it by 2020. Until then countries or groups of countries, such as the EU (see section 3.3.4), can implement interim measures.

the UNFCCC's request for measures to reduce greenhouse gas emissions from international shipping (Project Catalyst 2009; Kågeson 2011). The recently formed group of "like-minded developing countries"[30] wants the IMO to work in accordance with the principles and provisions of the UNFCCC, in particular the principles of equity and CBDR (UNFCCC 2012a). However, the EU wants measures that are consistent with the customary practices and principles of IMO (Government of Cyprus / EC 2012).

The International Chamber of Shipping prefers the IMO to implement a mechanism that includes the entire world. Although global coverage is necessary, developing countries are concerned that an unfair burden will be placed on their economies (Project Catalyst 2009; Kågeson 2011). This is a complex issue. About 60 per cent of global trade in shipping is destined for developed economies, yet only 35 per cent of the global fleet is registered with "Annex I" nations (Project Catalyst 2009). A system which would exclude Non-Annex I countries would cause carbon leakage, as ships are flexible about their flag of choice (Bennett 2012).

Differentiated responsibilities

Table 15: Approaches to attribute emissions in the reduction of emissions from bunker fuels in shipping

	Mechanism	Described by	Explanation
Approach[31]	Port state levy	IMO (2010a)	All countries would be authorised to allow their ports to levy a globally uniform emissions charge on all vessels calling at their ports. Charges would be higher for heavier and dirtier fuels and lower for cleaner fuels, and structured in such a way to achieve the global reduction targets for greenhouse gases
	Levy on marine bunkers	IMO (2010b)	GHG fund contributions are collected on marine bunkers. A part thereof is refunded to ships meeting or exceeding agreed efficiency benchmarks and labelled as "good performance ships".
	Reward or penalise ships based on energy efficiency	e.g. IMO (2010c; 2010d)	This subjects existing and new ships to mandatory energy-efficiency standards. Vessels would have to be judged against increasingly stringent efficiency standards, possibly with fees for non-compliance.
	Global emission cap and trade system	e.g. IMO (2010e; 2010f; 2010g)	This sets a sector-wide cap on net emissions from international shipping. A reduced number of allowances (emission units) would be released into the market each year via a global auctioning process. Units would be tradable.

Source: Authors' compilation

30 The first meeting of the group on climate change was hosted by China in 2012. The document that is referred to was drafted by Algeria, Argentina, Bolivia, Brazil, China, Cuba, Ecuador, Egypt, El Salvador, India, Malaysia, Nicaragua, Pakistan, Saudi Arabia, South Africa, Thailand, Uruguay and Venezuela.

31 IMO provides an overview of approaches proposed by individual countries: http://www.imo.org/OurWork/Environment/pollutionprevention/airpollution/pages/market-based-measures.aspx.

Table 16: Differentiation mechanisms reflecting CBDR in bunker fuel emission control in shipping

	Mechanism	Described by	Explanation
Differentiation	Slower phasing-in	Kågeson (2011)	A slower phasing-in of regulations for developing countries, for example in terms of targets and timeframes for developed and developing nations. The duration of the envisaged compensation rules is a main issue: some Non-Annex I countries have already passed certain Annex I countries in terms of GDP per capita and/or emissions per capita.
	Only cover journeys to developed countries	Romani and Stern (2013)	This could be done with or without compensating developing countries.
	Exception of specific routes	Kågeson (2011)	This would grant further allowances to particular LDCs and SIDS. These routes should be subject to a review system; and it should be possible to add or remove routes through a petition mechanism.

Source: Authors' compilation

Table 17: Participation mechanisms reflecting CBDR under the CBD in bunker fuel emission control in shipping

	Mechanism	Described by	Explanation
Participation mechanism	Critical use exemptions	Kågeson (2011)	For essential items such as food or medicine, allowances could be granted for particular LDCs and SIDS through one-off shipments. These items should be subject to a review system, and it should be possible to add or remove items through a petition mechanism.
	Financial compensation	Bennett (2012); Kågeson (2011); Romani and Stern (2013)	Industry would support directing those funds that are raised through any of the above approaches to help climate change projects in developing nations, possibly with linkages to the UNFCCC "Green Climate Fund". According to the International Chamber of Shipping, this approach is preferred by ship owners. The incidence of taxes used to mobilise funds should be limited to developed countries; if there is an impact on developing countries it should be compensated (no net incidence).

Source: Authors' compilation

Progress in the implementation of MBM

In a note to COP 18 in Doha, the IMO stated that MBM proposals under review range from a contribution or levy on all CO_2 emissions from international shipping – or only from those ships that do not meet the Energy-Efficiency Design Index requirement, via emissions trading systems – to schemes based on a ship's actual efficiency, both by design (Energy-Efficiency Design Index) and operation (Ship Energy-Efficiency Management Plan) (IMO 2012).

In 2012 IMO decided on the need to undertake an impact assessment of the MBM proposals with a focus on possible impacts on consumers and industries in developing countries, particularly in LDCs, SIDS and remotely located developing countries with long trading distances. It will consider in detail the methodology and criteria this should be based on (IMO 2012). The 65th meeting of IMO's Marine Environment Protection Committee (MEPC) adopted the Resolution on Promotion of Technical Co-operation and Transfer of Technology relating to the Improvement of Energy Efficiency of Ships. Among other things, this resolution *"requests the Organization* [...] *to enable cooperation in the transfer of energy efficient technologies to developing countries in particular; and further assist in the sourcing of funding for capacity building and support to States, in particular developing States, which have requested technology transfer"* (IMO 2013). However, discussions on MBMs were held back and suspended to a future session. According to the International Maritime Emission Reduction Scheme (IMERS 2013), the Marine Environment Protection Committee discussions once again demonstrated the political sensitivity of – and opposing views on – how to relate IMO's climate change measures to the CBDR principle of the UNFCCC.

4.6 Post-2015 negotiations and prospective Sustainable Development Goals

2015 will be a pivotal year in setting the course for environmental and development policy until 2025 or 2030. A process to formulate new development goals in 2015 to succeed the Millennium Development Goals (MDGs) has been set up in the context of the UN. Initially, this process was split into two strands. The first strand ties in with the MDGs and focuses on transforming the current development agenda into a post-MDG agenda with a view to removing its weaknesses but maintaining its strengths. Five work streams (UN Task Team, UN Global Compact, High-level Panel of Eminent Persons, the Sustainable Development Solutions Network and the UN Development Group) were initiated by Secretary-General Ban Ki-moon in order to produce reports and inputs for the Special Event on the MDGs that took place in New York in September 2013 (Rippin 2013).

The second strand has emerged from Rio+20[32] and aims at elaborating the SDGs. The idea is, first, to broaden the focus of the agenda from human to sustainable development and, second, to enlarge the scope of objectives from developing countries only to all countries. In a balanced way, the goals should address all three dimensions of sustainable development (economic, social, environment) and be coherent with – and integrated into – the UN development agenda beyond 2015. The MDGs serve as a model of what international development goals could look like, as they have helped to mobilise action and resources towards a core set of development priorities. However, they have also been strongly criticised, for example for being incomplete, superficial and unilateral (see Loewe 2012). Furthermore, the MDGs were established before the implications of climate change were fully understood, and development is thus more challenging than anticipated at the time when those objectives were set (Romani / Stern 2013). The MDGs depict a relationship between donors and developing countries along the classical North-South line, but the SDGs

32 "Rio+20" is the short name for the United Nations Conference on Sustainable Development, held in Rio de Janeiro in June 2012. It took place 20 years after the 1992 Earth Summit in Rio, where countries adopted inter alia the UNFCCC, the UNCCD and the CBD (see also section 2.1).

should become real global and universal goals. However, global goals have to be implemented on the national level. Therefore, the issue of CBDR becomes very important when discussing how to differentiate national targets contributing to the overall goals.

The role CBDR will play in the SDGs is not clear yet. At Rio+20 it was agreed that SDGs must be: action-oriented, concise, easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries while *"taking into account different national realities, capacities and levels of development and respecting national policies and priorities"* (TFWW 247, 46). During the conference, the negotiations on CBDR were quite intense. Member states discussed in two negotiating groups how the principle could be reflected in the Rio+20 outcome document. Apart from the reference to capacities and levels of development in the SDG section, the outcome document directly points to CBDR when affirming *"the principles of the Rio Declaration on Environment and Development, including, inter alia, the principle of common but differentiated responsibilities, as set out in Principle 7 of the Rio Declaration"* (TFWW 15, 2), and when linking up with the UNFCCC: *"Parties should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities"* (TFWW 191, 34).

After Rio+20 the international community needed some time to set up the process to develop SDGs. Since January 2013 the 30-member Open Working Group (OWG) of the General Assembly has been meeting regularly to discuss conceptual and content-related issues. They have the mandate to prepare a proposal on the SDGs by September 2014. In the following meetings of the OWG (e.g. in the seventh meeting on cities, settlements, transport, production and consumption, climate change and disaster risk reduction), CBDR has also been addressed, although it was not explicitly on the agenda. During the second session of the OWG (February 2013) on conceptual aspects of SDGs, it was discussed that SDGs must be universal and applicable to all countries. Similar to the Rio+20 outcome, this means that they must be flexible enough to have ownership of countries at different levels of development and with different national priorities. However, the term "CBDR" was avoided. Two options were discussed about how to address differentiation within the SDGs:

(i) Common set of goals coupled with the adoption of differentiated targets and/or timelines calibrated to level of development and national circumstances;

(ii) Common set of goals with multiple targets and indicators under each (a dashboard or menu) from which countries themselves could prioritise when devising their own development agenda, in keeping with their level of development and national circumstances.

In September 2013 at the Special Event on the MDGs, the General Assembly decided to pave the way for merging the two processes. Originally, the purpose of the event was to review the MDGs and decide how to shape a new development agenda after 2015, when the MDGs will expire. However, the outcome document of the Special Event provides countries with a short break and states that the intergovernmental negotiations on the post-2015 agenda will only start in September 2014, when the OWG on the SDGs will have completed its task. Until then, further events under the auspices of the General Assembly will take place to set the stage for post-2015 in order to keep the process going by not anticipating any outcomes (Rippin 2013).

Merging these two processes implies that sustainable development and poverty eradication will become overarching goals of the new post-2015 agenda. CBDR played a crucial role in the negotiations on the draft of the outcome document of the Special Event. Developing countries pushed for an inclusion of the term CBDR, whereas industrialised countries did not consider it to be very helpful or necessary to explicitly mention CBDR. Finally, the following phrase was adopted in the outcome document: *"We reaffirm all the principles of the Rio Declaration on Environment and Development, including, inter alia, the principle of common but differentiated responsibilities, as set out in principle 7 thereof"* (Outcome document, Special Event 2013; see also Rippin 2013). This shows that CBDR will continue to be an issue in the further development of the post-2015 agenda, although it remains to be seen how the principle of CBDR will be interpreted and applied in this context.

5 Conclusion

After decades of increasing international cooperation on environmental issues, the notion of common but differentiated responsibilities evolved into a cardinal principle in the context of international negotiations under the UNFCCC. More specifically, common but differentiated responsibilities and respective capabilities emerged as a policy principle that reflects the more philosophical principle of equity. It reflects the lasting political consensus that the widest possible cooperation by all countries is needed to combat climate change and the adverse impacts thereof, and that all parties have a responsibility to act accordingly, while taking into account their different national circumstances, capacities, historical GHG emissions and development needs.

The idea behind CBDR facilitated the creation of an international climate regime in the 1990s, but the exact meaning of CBDR, let alone its implementation, remain complicated and, indeed, contentious. As demonstrated in section 3.3 of this paper, parties generally agree to the principle of CBDR-RC, but employ different conceptualisations when putting it into practice. The deadlock in international climate negotiations can be attributed at least partially to these divergent interpretations of CBDR. The multiplication of state groups and country coalitions and the rise of emerging economies has raised the stakes regarding the interpretation and, ultimately, the practical implementation of CBDR. In any case, it becomes clear that the Annex I / Non-Annex I dichotomy is neither a practical nor a realistic way forward. Not only the industrialised countries, but also the newly industrialising and developing countries will have to clearly limit the amount of greenhouse gases they emit in order to prevent dangerous climate change. While there is encouraging evidence for increased climate action on domestic levels – including from the biggest emitters among developing countries – this does not offset the need for a strong international climate agreement under the UNFCCC.

In the search for ways to implement CBDR under a 2015 climate agreement, this discussion paper analysed types of mechanisms that reflect the notion of CBDR in other international regimes and negotiation processes. It thus addresses various manifestations of the principle under the CBD, the UNCCD, the WTO, the Montreal Protocol and bunker fuel emission control in shipping as well as with regard to the framing of the prospective SDGs. All these manifestations vary in context and scope. Hence, success factors from one agreement are not necessarily applicable or successful in another agreement. Still, the UNFCCC can learn from its historical and institutional antecedents. With this in mind, this

conclusion provides three tables that are grounded on the context and scope of the UNFCCC, yet enriched with mechanisms from other empirical manifestations that could prove useful to develop scenarios for CBDR adoption and implementation as the UNFCCC evolves further (see Tables 18–20). These structure the main conclusions of the paper according to three categories: approach, differentiation and participation mechanisms, as outlined below.

Approach

In the context of climate change mitigation, the "approach" basically means the attribution of GHG emissions. Under the UNFCCC regime, emissions are attributed to their source and respective producers, and the emission limitation and reduction targets are based on inter-state negotiations. The mechanism of "contraction and convergence" would be one approach that also fits within this line of attribution (see Table 1). Researchers point at a variety of possibilities, but it is politically unlikely that the attribution to states will be changed in an attribution to, for example, consumers or producers. Still, these approaches provide food for thought and are often referred to in public policy debates on international climate negotiations.

Table 18: Approaches towards the attribution of GHG emissions

Mechanism*	**Explanation**
Attribute emissions to consumers, not producers	It is customary to attribute emissions to the source. However, it may make sense to attribute emissions to consumers. For instance, a large proportion of China's emissions relate to the production of goods that are imported by and consumed in OECD countries. There is, however, no political experience with this approach (e.g. examples 1, 2 and 4); and it is also not considered in the bunker fuel emission control scenarios for shipping (example 5).
Responsible actor	Which actor should be held responsible: states, businesses or individual citizens? States, as such, are not emitters of greenhouse gases, but they may have the power to regulate emissions and have taken on international legal obligations to do so. Holding businesses or even individuals responsible might prove much more complicated, although IMO is designing a revenue scheme that could work through ships or companies (example 5).
Budget approach	Rather than calculating reduction obligations based on current levels of emissions, the "emission rights" approach looks at how much GHG can still be emitted before global warming probably exceeds 2°C. Each country would then be allotted a national emissions budget. Existing proposals from India and the WBGU include tradable rights, which makes the budget approach more flexible and target-based than earlier proposals. Although there is some experience with caps (limiting emissions, such as the EU ETS and potentially example 5), there is no experience with approaches that include limited "budgets"; cf. examples 1, 2 and 4 do not include "budgets".

* Mechanisms and explanations are collected from the tables in chapters 3 and 4 and the references mentioned therein.

Source: Authors' compilation

Differentiation

The attribution of emissions is the foundation on which responsibilities to limit and reduce emissions can be based. This section lists options for differentiation of responsibilities

among countries based on criteria and means. First, the "criteria" reflect fundamental decisions that need to be made on the basis of how and which differentiation will be organised over time. Second, the "means" reflect a number of practical ways in which differentiation can be made more acceptable for both countries with high and low early-phase commitments (see also Table 19).

One overarching theme in the debates about both the "criteria" and the "means" is flexibility over time. The Rio Convention states that *"developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development"*, which is fundamentally different from the UNFCCC statement that *"developed country Parties should take the lead."* The latter implies that others will (eventually) follow. It indicates a flexibility that is, however, not witnessed in the Kyoto Protocol, where even the second commitment period that was agreed upon in Doha in 2012 continues along the dichotomous pathway of Annex I versus Non-Annex I. Other international agreements such as the WTO's GATT and the Montreal Protocol feature "graduation" mechanisms, in which countries acquire different responsibilities after a certain grace period or after reaching a threshold value in per capita income. Additionally, the Montreal Protocol also has an exclusion criteria: developing countries only have special rights (e.g. grace period, financial support) if their emissions stay below a specified threshold. Yet the UNFCCC currently treats the 150+ Non-Annex I parties as one group and neither provides for further differentiation, nor does it set a timeframe for the re-evaluation of stronger developing-country obligations. In line with a host of pertinent studies (e.g. Parikh / Baruah 2012; Karousakis / Guay / Philibert 2008; Depledge / Yamin 2009), and in order to allow for more flexibility towards the changing global economic and development outlook, the authors of this discussion paper conclude that it would be sensible to introduce:

1) a further differentiation of state groups beyond the current dichotomous Annex I / Non-Annex I dichotomy. Yet the introduction of additional groups will need to carefully reconsider which number of groups would yield the most effective climate regime;

2) graduation and exclusion *mechanisms* in order to accommodate for more flexibility. These again need to be based on clear and adequate *criteria*. For instance, a party would automatically graduate to a group with more responsibility to mitigate climate change once it reaches a certain state of economic development. Likewise, a party would be automatically excluded from one group if its (per capita) emissions or energy intensity grow above a certain threshold.

The initial grouping and graduation (or relapse) from one group to another should be based on a basket of criteria. To adequately reflect the dynamics of climate change and global development, such a basket of criteria should take future emission growth paths of emerging economies into account to somewhat ameliorate Northern reluctance towards CBDR under the climate regime (Honkonen 2009). At the same time, taking historical responsibility into account will reduce the reluctance of Southern countries. The combination of a corresponding basket of criteria and the possibility to graduate and exclude should produce a measure of flexibility that leaves parties with few excuses to enduringly refuse participation.

Table 19: Criteria and means to allow for differentiation of responsibilities under the UNFCCC

	Mechanism*	Explanation
Define criteria for differentiation of responsibilities	More country categories, include graduation	The Annex I / Non-Annex I dichotomy could be replaced by a more comprehensive and larger number of groups, including provisions that allow for graduation from one category to another. The WTO (example 3) and CBD (example 1) already include several country categories. Alternatively, the Montreal Protocol only includes developed and developing countries, but countries under the latter category only have special rights (e.g. grace period, financial support) if their emissions are below a certain threshold (making them "Article 5, paragraph 1 parties"). A corresponding threshold could also be developed under the UNFCCC.
	More country categories, include exclusion	The Montreal Protocol (example 4) has an exclusion criteria: developing countries only have special rights (e.g. grace period, financial support) if their emissions are below a certain threshold. Exclusion criteria could enhance graduation criteria in designing a flexible regime of multiple groups.
	Include criteria other than economic development and emissions	Apart from economic development and current and future emissions, other elements could be considered in setting the differentiated mitigation obligations (with or without inclusion of historical responsibility): • mitigation potential • costs of mitigation • emissions per unit of GDP
	Indicator basket	A basket of indicators necessary to reflect CBDR (e.g. Honkonen 2009; Karousakis / Guay / Philibert 2008; CAN 2013b). Based on the convention's core equity principles, CAN proposes: adequacy, responsibility, capability, adaptation need and development need. Each of these would be measured with a chosen (set of) indicator(s).
	Sectoral-based differentiation	Sectoral approaches can determine politically acceptable national targets and domestic allowance allocations based on reduction potentials from technological perspectives, including in developing countries. In the EU, for instance, this approach shifted the attention from comparing contributions and fairness among member states towards comparing contributions and fairness across sectors
	No voluntary undertakings vs. mandatory commitments	In the Montreal Protocol, there was no distinction between some countries' undertakings being voluntary and others having mandatory commitments. This has minimised the tensions between developing and developed countries.
	Same obligations, differentiated stringency or commitments	All countries would be submitted to the responsibility to limit or reduce GHG emissions, with some having more stringent obligations than others. Obligations could be adopted with different types of commitments, with some countries taking on QELROs, and others adopting renewable energy targets or energy-efficiency targets. In its preparations for the ADP, the EU also considers differentiated commitments, such as intensity targets (emissions per unit of GDP or per capita) and deviation from BAU emissions.

Table 19 (cont.): Criteria and means to allow for differentiation of responsibilities under the UNFCCC		
	Mechanism*	**Explanation**
Define means that allow for differentiation	Different base years	Countries can start off with different base years (or over an average of several years), as was also done in the Montreal Protocol.
	Slower phasing-in	Developing countries or groups of developing countries would be allowed a slower phasing-in of regulation than others, for example in terms of targets and timeframes. The duration of this means of differentiation is a main issue. A condition for a grace period could include a threshold of (per capita) consumption / production of a certain controlled substance, as was the case in the Montreal Protocol.
	Differentiate luxury emissions from survival emissions	The poorest countries could be given "survival emissions" that are excluded from mitigation regulation or priced differently than "luxury emissions" associated with the lifestyles of affluent people. A distinction between what is luxury and what is not would inevitably be controversial, but the agreement on "critical use exemptions" under the Montreal Protocol provides a useful point of reference.
* Mechanisms and explanations are collected from the tables in chapters 3 and 4 and the references mentioned therein.		
Source: Authors' compilation		

Participation mechanisms

Finally, participation mechanisms concern incentives for parties to actually participate in a prospective 2015 climate agreement. This discussion paper reconfirms that compliance assistance of some description can be found in each and every one of the analysed agreements and that it has proved essential in bringing developing countries on board. The most obvious means in this respect are technology transfer and (conditional) financial support, which has been demonstrated in examples 1, 2, 4 and 5 in section 4. In this light, public adaptation finance may also be considered as a participation mechanism. Indeed, adaptation finance from Annex I countries is supposed to "be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa" (UNFCCC 2010, dec. 2/CP.15). This is a step of differentiation that goes beyond the Annex I / Non-Annex I dichotomy, and beyond CBDR(RC), as discussed with regards to mitigation only.

The mechanisms under the WTO also include technological assistance and "aid for trade". Other proven and tested participation mechanisms include critical use exemptions, information exchange, research promotion and capacity-building (see Table 20).

Both the differentiation and the participation mechanisms require information up front in order to ensure transparency, quantifiability, comparability and verifiability. All of this will enable parties to better monitor their compliance with respective GHG emission limitation and reduction targets. This in turn should also help to raise national as well as global ambitions in a manner that can be commensurate to keeping global warming below 2°C.

Table 20: Participation mechanisms	
Mechanism*	**Explanation**
Financial compensation	All countries would have similar responsibilities towards mitigation, but developing countries would be entitled to financial compensation for environmental restraint while pursuing their humanitarian and development goals.
Technology transfer	All countries would have similar responsibilities towards mitigation, but developing countries would be entitled to technology transfer. Privileged market access, as mentioned under example 3, could contribute to technology transfer.
Critical use exemptions	This participation mechanism could be used for particular countries and for shipping of e.g. food or medicine under the IMO MBM proposals. It might apply for certain types of emission reductions, too.
Joint fulfilment of commitments	Allowing parties for joint fulfilment of commitments could enable aggregate calculated levels of greenhouse gas reductions to surpass the agreed levels, while reducing the burden for some of the countries involved. It could help a country to accept a higher emission limitation or reduction target, as it is partly forwarded to the group that takes on the joint fulfilment, rather than the country itself.
Information exchange, research promotion, capacity-building	Although these mechanisms are different, all three of them can stimulate compliance if they help developing countries to participate more actively in climate change mitigation.
* Mechanisms and explanations are collected from the tables in chapters 3 and 4 and the references mentioned therein.	
Source: Authors' compilation	

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