

**THE EVOLUTION OF DIFFERENTIATION IN INTERNATIONAL CLIMATE
CHANGE LAW AND ITS IMPLICATIONS FOR THE EFFECTIVENESS OF THE
PARIS AGREEMENT**



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DECLARATION

I, **RASHID ABUBAKAR**, declare that this is my original work and that it has not been submitted to any university or institution of higher learning for the award of a diploma, degree or post-graduate qualification.

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DEDICATION

This dissertation is dedicated to my amazing family for their unwavering support throughout my academic journey. My mum, Elizabeth Nyambura, for her love, commitment, dedication and prayers. Her spiritual strength is unmatched. To my father, Abubakr Musyoki: I can never be able to repay you for everything that you have done for me. I will leave this to God. To Hamisi, Fahim and Sofia, I hope this is a testament that nothing is impossible if you put effort and trust God.

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List of Abbreviations

AGBM	-	Ad Hoc Group on the Berlin Mandate
AAU	-	Assigned Amount Unit
AOSIS	-	Alliance of Small Island States
AWG-ADP	-	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AWG-KP	-	Ad Hoc open-ended Working Group on Further Commitments
AWG-LCA	-	Ad-Hoc Working Group on Long-term Cooperative Action
BAP	-	Bali Action Plan
BTR	-	Biennial Transparency Report
CBDRRC	-	Common But Differentiated Responsibilities and Respective Capabilities
CCB	-	Committee on Capacity Building
CEIT	-	Country with Economies in Transition
CERs	-	Certified Emission Reductions
CMA	-	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	-	Conference of the Parties
EAERT	-	Economy-wide Absolute Emission Reduction Target
EERLT	-	Economy-wide Emission Reduction or Limitation Target
ERU	-	Emission Reduction Unit
EU	-	European Union

EU-ETS	-	EU Emissions Trading Scheme
GEF	-	Global Environment Facility
GDP	-	Gross Domestic Product
GHGs	-	Greenhouse Gases
HFCs	-	Hydrofluorocarbons
ICJ	-	International Court of Justice
ILO	-	International Labour Organization
INC	-	Intergovernmental Negotiating Committee
INDC	-	Intended Nationally Determined Contribution
IPCC	-	Intergovernmental Panel on Climate Change
LDC	-	Least Developed Country
MOP	-	Meeting of Parties
MPGs	-	Modalities, Procedures and Guidelines
NDC	-	Nationally Determined Contribution
NIEO	-	New International Economic Order
OECD	-	Organisation for Economic Co-operation and Development
SBI	-	Subsidiary Body for Implementation (of the UN Framework Convention on Climate Change)
SBSTA	-	Subsidiary Body for Scientific and Technological Advice (of the UN Framework Convention on Climate Change)
SDGs	-	Sustainable Development Goals

SIDS	-	Small Island Developing States
UN	-	United Nations
UNCED	-	United Nations Conference on Environment and Development
UNEP	-	United Nations Environment Programme
UNFCCC	-	United Nations Framework Convention on Climate Change
UNGA	-	United Nations General Assembly
USA	-	United States of America
WMO	-	World Meteorological Organization
WSSD	-	World Summit on Sustainable Development

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CHAPTER 1

1.1 INTRODUCTION

In the lead up to the 24th Conference of Parties (COP-24) to the United Nations Framework Convention on Climate Change (UNFCCC) in Katowice, Poland, the United Nations Secretary General, Antonio Gutierrez, characterized climate change as a “direct existential threat” to life on earth.¹ While the statement may appear appalling, it was not an exaggeration. Climate change is the 21st century’s most challenging issue. Research shows that rising greenhouse gases (GHGs) concentrations have a seriously negative impact on human and natural systems.² These gases, mostly from anthropogenic causes, have caused global warming with severe consequences.³

Climate change has altered hydrological systems in some parts of the world through changed precipitation patterns and melting of snow and ice. Consequently, water quality and quantity in those parts have been affected.⁴ Climate change has also forced many marine, terrestrial and freshwater species to shift their geographical ranges, migration patterns, interaction with other species and seasonal activities.⁵ Furthermore, extreme weather events have increased due to climate change.⁶ These include an increase in the number of cold days and nights; an increase in the frequency and duration of heat waves in Asia, Europe and Australia;⁷ and an increase in heavy precipitation events in some regions and a decrease in others.⁸ Notably, both these scenarios have a negative impact. An increase in cold days and nights presents a

¹ UN News, “‘Direct existential threat’ of climate change nears point of no return, warns UN chief,” (2018). Accessed from <https://news.un.org/en/story/2018/09/1018852>

² These greenhouses gases are listed in Annex A of the Kyoto Protocol.

³ United Nations Framework Convention on Climate Change Secretariat, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing States*, (UNFCCC 2007), p 8.

⁴ Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*, (IPCC, 2014), p 51.

⁵ *Ibid*, p 13.

⁶ *Ibid*, p 7.

⁷ *Ibid*, p 53.

⁸ *Ibid*, p 8.

risk of cold-related mortality among terrestrial and freshwater organisms while temperature increases, such as heat waves, also have negative health risks.⁹ Similarly, in areas where climate change has caused an increase in heavy precipitation events, there is a greater risk of flooding while in regions where it has led to a reduction in precipitation, there is a risk of drought and famine.¹⁰

Climate change risks and impacts will be even more serious in future if no action is taken. In addition to continued weather extremes, species, especially small mammals and freshwater molluscs will be threatened with extinction. Marine organisms will also experience lower levels of oxygen due to rising ocean temperatures and acidification.¹¹ Food security will be undermined as some regions, mostly tropical and temperate ones, are projected to face a substantial reduction in wheat, rice, and maize yield. Fish produce will also reduce as climate change causes marine biodiversity reduction and redistribution in sensitive regions. Furthermore, reduced precipitation and altered hydrological cycles will lead to a reduction in renewable ground and surface water resources in dry subtropical regions thus increasing the risk of conflicts over water.¹²

Climate change also presents a serious threat to the realization of Sustainable Development Goals (SDGs), with particular focus on SDG1 on elimination of poverty, SDG2 on zero hunger, SDG3 on health and well-being, SDG11 on sustainable cities and communities, SDG 14 on sustainability of marine resources, SDG 15 on protection of terrestrial ecosystems and SDG 16 on peace, justice and strong institutions. Climate change will hinder economic growth, challenge the fight against poverty and erode food security. It is also expected to catalyse the displacement of people as well as indirectly increasing the risk of violent

⁹ Ibid, p 51.

¹⁰ Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*, (IPCC, 2014).

¹¹ Ibid, p 67.

¹² United Nations Framework Convention on Climate Change Secretariat, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing States*, (UNFCCC 2007).

conflicts through the amplification of already existing drivers of these conflicts, such as poverty. Moreover, urban areas will face increased risks for people, ecosystems, economies and assets. These will include risks from heat stress, inland and coastal flooding, air pollution, water scarcity, droughts, storms, heavy rains, landslides, and sea level rise and storm surges. The latter two are particularly potent considering that almost a billion people reside in low elevation coastal zones with 200 million living along coastal lines less than 5 metres above sea level.¹³

It is in recognition of these destructive effects and the dangers that climate change poses that states deemed it necessary to establish an international climate change law regime. The UNFCCC was adopted in 1992 in response to the 1st assessment report by the Intergovernmental Panel on Climate Change (IPCC) that had been released in 1990. The main objective of the UNFCCC was to “stabilize atmospheric greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system” within a timeframe that would make it possible for “ecosystems to adapt naturally, ensure the protection of food security as well as promote sustainable development.”¹⁴

The UNFCCC was further supplemented by the 1997 Kyoto Protocol. It contained legally binding quantified emission targets for specific states (Annex B) as well as strong reporting, review and compliance measures. In 2015, the regime received a further boost through the Paris Agreement whose objective is “to maintain the global average temperature increase to well below 2°C above pre-industrial levels and pursue efforts towards 1.5°C target”.¹⁵

¹³ United Nations Human Settlements Programme, *Cities and Climate Change: Global Report on Human Settlements*, (UN-Habitat 2011), p vi.

¹⁴ Article 2, UNFCCC.

¹⁵ Article 2, Paris Agreement.

1.2 BACKGROUND

It was expected that growth of the international climate change law regime through the UNFCCC, the Kyoto Protocol and the Paris Agreement would tackle GHGs emissions and reduce the risks associated with climate change. However, research shows that despite these three instruments, efforts to combat climate change have still fallen well short of scientifically required targets. It is reported that even if current Nationally Determined Contributions (NDCs) were met, the earth is still expected to warm by 3°C by 2100 compared to pre-industrial levels.¹⁶ Failure to abide by the NDCs would lead to a warming of over 4.8°C. Indeed, if the 1.5°C goal is to be achieved, current level of ambition must be increased five-fold. For the 2°C goal, it must be tripled. Moreover, the emissions gap must be closed by 2030, failure to which the 2°C goal may be out of reach.¹⁷

The core challenge in climate change response, and part of the reason for inadequate measures, has been devising a regime that not only sets out strong commitments and promotes participation and compliance, but is also deemed equitable. The climate regime has often suffered from accusations of being inequitable, unfair, and unjust. These accusations have been levelled by many states with both developed and developing states viewing ‘fairness’ from different lenses.

The stability of the climate regime rests on the principle of differentiation. States are willing to take part in the fight against climate change only where (they feel) there is equitable burden sharing. Developed states are discouraged from taking climate action where (they feel) there is lack of reciprocity by developing states. Developing states, on the other hand, are only eager to act if (they feel that) developed states are carrying their fair share of obligations and also providing them with assistance.

¹⁶ United Nations Environment Programme, *Emissions Gap Report 2018*, (UNEP 2018), p 17.

¹⁷ *Ibid.*

The genesis of the debate on differentiation as reflected in the application of the principle of Common But Differentiated Responsibilities and Respective Capacities (CBDRRC) lies in the UNFCCC. The Convention differentiated States into Annex I and non-Annex I parties representing developed states and developing states respectively, with most obligations resting on the former. The Annex-based categorization was then replicated in the Kyoto Protocol through which Annex B states carried legally binding specific emission reduction targets. These targets were only applicable to developed states with none placed on developing states. At that time, it was seen that because developed states accounted for most of the cumulative GHGs emissions, it was only fair that they be the ones to carry the burden of addressing climate change. Developing states, in contrast, argued that in addition to not carrying any obligations, developed states had a further obligation to assist them in addressing climate change.¹⁸

However, since Kyoto, some ‘developing’ states have overtaken developed states in total emissions. For instance, in 2007, emissions from China went past those of the USA. In 2017, it accounted for 27% of global emissions while the USA accounted for 13% and the EU at 9% (excluding land use changes).¹⁹ Furthermore, today, several ‘developing’ states have higher per capita income than the poorest ‘developed’ (Annex I) states. As such, the differentiation model of UNFCCC and Kyoto appeared unsuitable to current economic and political realities. Indeed, it is due to the perceived unfairness of the climate regime that the USA rejected the Kyoto Protocol and several others opted out of a second commitment period.²⁰ In this sense, it could be argued that differentiation, a fundamental pillar of the climate regime, was responsible for its failure.

¹⁸ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 27.

¹⁹ United Nations Environment Programme, *Emissions Gap Report 2018*, (UNEP 2018), p 7.

²⁰ Harro van Asselt, Michael Mehling and Clarisse Kehler Siebert, “The Changing Architecture of International Climate Change Law” in Van Calster, G., Vandenberghe, W., and Reins, L. (eds.), *Research Handbook*

The climate regime was salvaged by the Paris Agreement. Its architecture was a marked departure from that of the Kyoto Protocol in that rather than a top-down prescriptive approach, it advocated for a bottom-up approach through Nationally Determined Contributions (NDCs). It also moved away from differentiation along developed-developing state lines to *self-differentiation*.²¹ It does not create specific categories of parties and its obligations are not applicable to any specific category of parties. Instead, it tailors differentiation according to the issue that is being addressed – mitigation, transparency, capacity building, finance and adaptation.²²

However, although self-differentiation managed to promote universal acceptance of the Paris Agreement, this came at the expense of stronger commitments. As already highlighted, current commitments still fall well short of the 1.5°C and 2°C goals. In a bid to avoid clear differentiation, the Paris Agreement failed to adequately pressure both developed and developing states into carrying their fair share of the burden. Its emphasis on NDCs watered down substantive obligations and hindered ambition in climate action.

Accordingly, this research seeks to examine the evolving nature of differentiation in the context of climate change with a focus on its rationale, legal meaning, and practical application. While tracing its development from the UNFCCC, to the Kyoto Protocol and finally to the Paris Agreement, it maintains that the success of the international climate change law framework rests on a properly designed system of differentiation that not only promotes wide participation, but also facilitates action that will “prevent dangerous anthropogenic interference with the climate system.”

on *Climate Change Mitigation Law*, (Edward Elgar 2014), p 9.

²¹ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 29.

²² Lavanya Rajamani, “Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics,” (2016), 65 *International and Comparative Law Quarterly*, p 509.

1.3 STATEMENT OF THE PROBLEM

The principle of Common But Differentiated Responsibilities and Respective Capabilities (CBDRRC) has not only played a major role in the development of the international climate change law regime but also its lack of effectiveness. The placing of different responsibilities on developed and developing states contributed to ineffectiveness of the Kyoto Protocol and the consequent departure from its bifurcated model to self-differentiation in the Paris Agreement. However, although self-differentiation has promoted near universal participation, this has come at the expense of more stringent commitments and strong enforcement mechanisms that are necessary to achieve the goal of limiting “the average global temperature increase to not more than of 2°C of the pre-industrial level.”

1.4 RESEARCH QUESTIONS

The following questions are relevant in this research:

1. What is the principle of CBDRRC?
2. What are the origins, utility and application of differentiation in the climate context?
3. What was the impact of differentiation on the development of climate change law with a specific focus on UNFCCC and Kyoto Protocol?
4. How has differentiation evolved as manifested in the Paris Agreement?
5. What is the likely impact of self-differentiation on the attainment of the Paris Agreement goals?
6. What is the future of differentiation in international climate change law?

1.5 JUSTIFICATION OF THE STUDY

Climate change poses serious dangers to the earth and its ecosystems as discussed in the introduction. These range from extreme weather events to hunger, deaths and poverty. They also include extinction of species, destruction of livelihoods, risks of increased conflicts and

massive displacement of people. These impacts and risks will be faced by all regions spanning both developed and developing states. For example, Africa, a continent that is already suffering from a variable climate, will face increased water scarcity in some parts, increased flooding in others and reduced agricultural production. The continent is also at risk of increased prevalence of diseases such as malaria and tuberculosis due to climate change. Rising temperatures are projected to accelerate the migration of the vectors of these diseases to higher altitudes thus exposing millions of previously unexposed people.²³

It is, therefore, imperative that states, developed and developing as well as major and minor emitters, to cooperate in addressing climate change. Differentiation has been the mechanism through which these two groups converged for cooperative action. However, due to previous disagreements on the nature and application of this principle, it is useful to have an examination on the utility, evolution and future of differentiation. This is because history shows that the climate regime rests on perceptions of equitable burden sharing. Furthermore, the principle has to be interpreted in accordance with the need to have a safe planet.

1.6 RESEARCH METHODOLOGY

This research is descriptive, analytical and prescriptive. It utilizes both primary and secondary sources of data. Primary sources include the UNFCCC, the Kyoto Protocol, the Paris Agreement, and the Paris Rulebook²⁴ among other COP decisions and relevant political agreements.

Secondary sources of data include books, journal articles, policy papers, reports, conference papers, newspapers and the internet.

²³ United Nations Framework Convention on Climate Change Secretariat, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing States*, (UNFCCC 2007), p 20.

²⁴ Outcome of the Paris Agreement Work Programme.

1.7 HYPOTHESIS

This study proceeds on the hypothesis that the success of the international climate change regime rests on a properly designed system of differentiation that not only promotes wide participation, but also facilitates adequate and effective action.

1.8 THEORETICAL AND CONCEPTUAL FRAMEWORK

This research utilizes three main theories including equity and fairness, utilitarianism, and realism. It will also be underpinned by several concepts such as sustainable development, the precautionary principle as well as inter-generational and intra-generational equity.

Equity and Fairness – This theory focuses on the distribution of social goods and responsibilities. A leading proponent of this theory, John Rawls, argued that if individuals “under a veil of ignorance” in the “original position” were asked to choose the basis on which the society should be organized and social goods distributed, they would pick two principles. The first is that every individual must have the “right to basic liberties” and second, that any social and economic “inequalities must be to the greatest benefit of the least advantaged members of society.” The second principle is referred to as the *difference principle* and in the international context, Rawls remoulded it into a duty to “assist other peoples living under unfavourable conditions that prevent their having a just or decent political and social regime”.²⁵

Equity and fairness is relevant to this study as it is the basis on which differentiation is based. Developing states have argued that it is only fair that developed states shoulder more responsibilities as they are the ones largely responsible for cumulative GHGs emissions in the atmosphere. Furthermore, developed states have more financial and technological capacities

²⁵ John Rawls, *The Law of Peoples*, (Harvard University Press 1999).

and consistent with Rawls' theory, have a duty to assist developing states in tackling climate change.

Utilitarianism – This theory was popularized by Jeremy Bentham and evaluates the merits of an action based on its consequences.²⁶ It argues that the “morally right act or policy is the one that leads to the greatest happiness or utility to the greatest number of people in the society.” It is a relevant theory because climate change threatens the ‘happiness’ of billions of people. As such, there is need for states, especially the major emitters, to act in order to prevent the projected negative outcomes. Under this theory, such action would be permitted although it inconveniences a few states provided the resultant benefits are more.²⁷

Realism – As a theory of international relations, realism holds that states are rational actors with their primary motive being securing their national interests. One of its famous proponents is Hans Morgenthau who argues that when pitted against domestic concerns, international interest will always come second.²⁸ This theory is used in this research to explain why ambition for climate change has remained low. This is because climate change affects almost every sector of a country's domestic policies including manufacturing, energy, agriculture, transportation and urban planning, among others. States are reluctant to enact radical changes to their policies due to the fear of the impact of such acts on their economies and their international competitiveness, especially where there is lack of reciprocity.

Sustainable Development - As a concept, it was first mentioned during the 1972 Stockholm Conference.²⁹ It was then popularized by the Brundtland Commission before gaining worldwide acceptance during the 1992 Rio Conference.³⁰ It has been defined as “development that meets the needs of the present generation without compromising the

²⁶ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (1781).

²⁷ Richard Brandt, *Morality, Utilitarianism, and Rights*, (Cambridge University Press, 1992).

²⁸ Hans J. Morgenthau, *Politics among Nations: The Struggle for Power and Peace*, (Alfred Knopf 1967), p 4-15.

²⁹ United Nations Conference on the Human Environment.

³⁰ United Nations Conference on Environment and Development.

ability of future generations to meet their own needs”.³¹ Principle 1 of the Rio Declaration aptly states that “human beings are at the centre of concerns for sustainable development”.³² This statement made it clear that while the protection of the environment was undoubtedly a major priority, it could not be discussed without taking the needs of humans into consideration. The principle did not sanction destruction of the environment simply because humans were in need. Instead, it highlighted the need for both socio-economic development and environmental protection and affirmed that neither could be neglected at the expense of the other.

In this research, sustainable development is used to argue for a system of differentiation that preserves the right of states to develop socio-economically but also ensuring that the future of the planet is not put at risk by climate change.

Precautionary Principle – In accordance with Principle 15 of the Rio Declaration, this principle states that “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.³³ The principle dissuades States from undertaking activities that are likely to harm the environment even where the impacts of such activities are not scientifically certain. The precautionary principle is used in this research to argue that scientific uncertainty on the full range of future climate impacts should not be used by states as a reason for inaction today.

Intra-generational and Inter-generational Equity - Intra-generational equity refers to equity between members of the present generation while intergenerational equity refers to equity between members of different generations i.e. between the present and future generations.

³¹ World Commission on Environment and Development, *Our Common Future*, (Oxford University Press 1987).

³² UN General Assembly Report of the United Nations Conference on Environment and Development (1992) UN Doc A/CONF.151/26 (Vol. I) (Rio Declaration).

³³ *Ibid.*

These two principles argue for ecological integrity for the benefit of both the earth's current inhabitants as well as future ones.

This research relies on these concepts to show that there is need for cooperation in climate action in order to promote equity between developed and developing states as well as between present and future generations. This is particularly important as research shows that climate change is projected to result in very serious risks in future.

1.9 LITERATURE REVIEW

A lot of research has been carried out on differentiation both in international environmental law in general and more specifically within the climate change context. These studies have sought to explain the origin and purpose of differentiation and its applicability in climate change law. Others have gone further to assess its changing nature and its potential effects on the future of the climate change law regime. Philippe Cullet gives a good discussion on the origin and purpose of differentiation.³⁴ According to him, differentiation emerged due to the North-South axis and the understanding that states had different priorities and capabilities. If Southern states were to be expected to participate in environmental protection, they had to be incentivised through differentiation. As such, Cullet argues that differentiations serves two ends. First, it promotes corrective justice. Here, it recognizes that some states are more culpable than others for environmental degradation and so places more responsibilities on them. Second, it is intended to foster distributive justice by focusing on the need for reduced inequalities in human development. This is seen for example, through provisions that require financial and technological assistance to developing states.

Climate change action is identified as being difficult due to several reasons. Firstly, climate change affects most sectors of a country's domestic policies including manufacturing, energy,

³⁴ Philippe Cullet, "Differential Treatment in International Environmental Law: Addressing Critiques and Conceptualizing the Next Steps," (2016), 5 *Transnational Environmental Law*

agriculture, transportation and urban planning. As climate change action would touch on many if not all of these sectors, states are understandably reluctant to overhaul their policies and face the economic risks associated with it. Secondly, different States have different priorities, interests and capabilities. While others are concerned with environmental integrity, others see economic prosperity as an overriding priority. Furthermore, the states that are most culpable for climate change are not necessarily the ones that will be most adversely affected. As such, there is little incentive for them to act.³⁵

The authors argue that an effective climate change law regime must have three elements: stringent commitments, wide participation and high compliance. All three must work together for optimum results as weaknesses along any of them will compromise the system. Stringent commitments, such as in Kyoto Protocol, would promote effectiveness all factors being equal. However, the challenge is that such stringent commitments often lead to lower participation. Conversely, weaker commitments may promote participation and compliance but do not necessarily lead to environmental effectiveness. This is because the high participation is often secured at the expense of strong substantive requirements.

The origin and evolution of the principle of differentiation in climate change law is discussed by Lavanya Rajamani. She traces differentiation to the 1992 UNFCCC with its objective being encouraging developed states to lead climate change action while also supporting developing states in the same endeavour. She further distinguishes between three different ways in which CDRRC is manifested in climate change law. First, there are provisions which distinguish developing from developed states regarding the treaty's central obligations such as emission reduction targets. The second are provisions that differentiate between the two groups of states with regards to implementation. Examples include delayed compliance

³⁵ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 4.

and reporting schedules. Third, there are provisions that differentiate states based on which states are obligated to assist others with finance and technology.

Rajamani notes that it is the first mode of differentiation that has caused the most amount of controversy.³⁶ She traces the displeasure of developed states to differentiation in the Kyoto Protocol to the adoption of the Bali Action Plan in 2007 which launched “a process to reach an agreed outcome” on future climate change action. Although the “agreed outcome” could not be achieved at COP-15 two years later at Copenhagen, it led to the emergence of a new form of differentiation through the Copenhagen Accord. The author notes that for the first time, the climate regime included identical mitigation targets for both developed and developing states. This model would then be inculcated into the UNFCCC process a year later through the Cancun Agreements, form the basis of the Durban Platform during COP-17 in 2011 and finally crystallize into self-differentiation within the Paris Agreement at COP-21 in 2015.

In another article, the evolution of the climate change law regime is examined and several observations made. First, the authors note that before Paris, the climate regime had been largely perceived as being ineffective due to lack of participation by large emitters led by the USA, China and India. Secondly, they recognize the inherently difficult nature of climate negotiations due to the big number of states involved with each of them having different interests and priorities. More relevantly, the authors argue that the climate regime has seen a softening of commitments. This has been caused by the adoption of a ‘bottom-up’ model which fancies a voluntary pledge-and-review approach in contrast to a top-down model.³⁷

³⁶ Lavanya Rajamani, “Differentiation in the Emerging Climate Regime,” (2013) 14 *Theoretical Inquiries in Law*, p 155.

³⁷ Harro van Asselt, Michael Mehling and Clarisse Kehler Siebert, “The Changing Architecture of International Climate Change Law” in Van Calster, G., Vandenberghe, W., and Reins, L. (eds.), *Research Handbook on Climate Change Mitigation Law*, (Edward Elgar 2014), p 10.

Notably, the authors point out that both the top-down and the bottom-up models have their advantages. The former demands collective bargaining for a global problem and solves the ‘free-rider’ phenomenon while the latter is more likely to incentivize local climate action. As such, they argue that a good regime should combine aspects of both approaches. The authors also address the issue of differentiation and posit that its changing nature may pose certain dangers. The most serious one is encouraging a race to the bottom whereby increased flexibility from further differentiation allows States to lower their ambition.³⁸

This research acknowledges previous studies done on this topic. These include those that define differentiation and explain its purpose and application to climate change. However, while most studies have identified the changing the nature of differentiation, there has been little examination on its impact on the attainment of the 1.5°C/2°C goal. As such, this research intends to fill this gap by not only tracing the evolution of differentiation and its role on the stability of the climate regime, but also identifying ways in which it could promote wide participation as well as facilitate action that is adequate to achieve the Paris Agreement goals.

1.10 CHAPTER BREAKDOWN

This research is structured as follows:

Chapter 1

This chapter introduces the study topic. It includes the background, the statement of the problem, the justification of the study and the research questions. In addition to these, there is the research methodology, the hypothesis, literature review and the theoretical framework.

Chapter 2

³⁸ Ibid, p 13.

This chapter discusses differentiation in international environmental law as reflected in the principle of CDRRC. It also discusses several theories and concepts that underpin this research such as equity and fairness (including intra-generational and intergenerational equity), sustainable development and the precautionary principle.

Chapter 3

This chapter examines the principle of CDRRC in international climate change law with a focus on the UNFCCC and the Kyoto Protocol. It highlights the utility of differentiation and assesses its impact on the stability and success of the climate change regime.

Chapter 4

The evolution of differentiation as manifested in the Paris Agreement and its impact on future climate change action is discussed in the fourth chapter. It looks at the strengths and weaknesses of the current mode of differentiation which can be described as ‘self-differentiation.’

Chapter 5

This chapter concludes the research and offers recommendations on the future of differentiation in an evolving climate regime. It proposes the manner in which differentiation post Paris can be designed to ensure the climate goals are met.

CHAPTER TWO

DIFFERENTIATION IN INTERNATIONAL ENVIRONMENTAL LAW:

FOUNDATION, RATIONALE AND RELEVANT PRINCIPLES

2.1 INTRODUCTION

The corpus of international law contains numerous instances of differential treatment among states or groups of states. It has been recognized that due to differences in economic, political and historical among other circumstances, it may be inappropriate to treat states similarly.³⁹

Differential treatment has been particularly relevant in international environmental law due to three factors. First, most environmental problems are global in nature. Depletion of natural resources, air and marine pollution, loss of biodiversity and climate change are examples of challenges that have considerable impacts on natural and human ecosystems throughout the world. Second, it is accepted that some states have contributed more to environmental degradation than others. Third, states have different capacities in terms of finances and technology, and as such, some may be able to contribute more towards environmental protection than others.⁴⁰

Accordingly, although global problems require global solutions that involve collective action, the fact that some states are more culpable or have more resources than others means that all states cannot be subjected to similar obligations. Differentiation, therefore, comes in to bring together differently situated states to address global environmental challenges. It seeks to deal with common concerns without ignoring inherent differences among states. This balance is achieved through the principle of *common but differentiated responsibilities and respective capabilities* (CBDRRC).

³⁹ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press 2006), p 8.

⁴⁰ *Ibid*, p 71.

This chapter critically discusses the origin of CDBRRC in international environmental law while highlighting its basis and rationale. The discussion will be influenced by several theories and concepts including equity and fairness (incorporating the principles of intra-generational and inter-generational equity), sustainable development and the precautionary principle.

2.2 COMMON BUT DIFFERENTIATED RESPONSIBILITY AND RESPECTIVE CAPABILITIES (CDBRRC)

The principle of CDBRRC signifies a pact between developed and developing states where both groups agreed to collectively address global environmental problems albeit to different extents. Developed states, partly motivated by the findings of a book titled “The Limits to Growth,” which claimed that the earth’s capacity to provide resources and take in anthropogenic waste was limited, became interested in establishing an environmental ethic.⁴¹

This need was reflected in the preamble of the Stockholm Declaration which stated that protection of the environment was “a major issue” and that it was the “urgent desire of the peoples of the *whole world* and the duty of *all Governments*”.⁴² On the other hand, however, developing states argued that while environmental protection was important, economic development and alleviation of poverty were more immediate needs. They further argued that because developed states are the ones who were largely responsible for environmental degradation, they were the ones who ought to take primary responsibility.

CDBRRC was, therefore, devised to bridge these two divergent views as reflected by Principle 7 of the Rio Declaration. It noted that:

“[I]n view of the different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed states acknowledge

⁴¹ Donella H. Meadows, Dennis L. Meadows, Jørgen Randers and William W. Behrens, *The Limits to Growth: A Report for The Club of Rome's Project on the Predicament of Mankind* (Universe Books, 1972), p 69-87.

⁴² Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), 1972.

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”.⁴³

The principle of CBDRRC signifies two ideas, namely:

- a) all states have a common responsibility towards environmental protection; but
- b) this responsibility is differentiated with some states bearing more than others based on different levels of culpability and (financial and technological) capacities.

2.2.1 COMMON RESPONSIBILITY

The tenet of ‘common responsibility’ recognizes that the world’s ecosystems are connected. GHGs, hydrofluorocarbons (HFCs), marine waste and other environmentally harmful substances do not recognize international boundaries. Activities in one part of the world have the ability to cause damage in other parts. Various examples illustrate this point. HFCs, mostly from developed states, depleted the ozone layer which put billions of lives at risk of harmful effects of ultra-violet radiation. These risks were faced by people from all states, both developed and developing, regardless of their level of culpability in depleting the ozone layer.

Another example is the link between GHGs emissions in one part of the world and rising sea-levels in other parts. Several low-lying Pacific islands are being threatened with disappearance under the sea despite their negligible contribution to climate change.⁴⁴ Here, it is clear that the effects of climate change are global in nature although only a few states have been responsible for majority of GHGs emissions.⁴⁵ As such, common responsibility denotes

⁴³ UN General Assembly Report of the United Nations Conference on Environment and Development (1992) UN Doc A/CONF.151/26 (Rio Declaration).

⁴⁴ Ella Howes, Silvana Birchenough and Susana Lincoln, “Effects of Climate Change Relevant to the Pacific Islands’ 2018 *Science Review* (2018), p 1-19.

⁴⁵ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 4.

that because all states stand to be negatively affected by environmental degradation, all of them should cooperate to address it.

The idea that states have a common responsibility for environmental protection signifies the unity of ecosystems and natural resources and recognizes the benefits that the world as a whole derives from global commons. It is closely related to the ideals of “common concern” and “common heritage of mankind”. Numerous environmental treaties exhibit these instances of commonality. The 1967 Outer Space Treaty considers Outer space and the Moon as the “province of all mankind”⁴⁶; the 1971 Ramsar Convention on Wetlands treats waterfowl as “an international resource”⁴⁷; The Bonn Convention calls for the conservation of wildlife because it is “for the good of mankind”⁴⁸; and the World Heritage Convention declares natural and cultural heritage to be “part of the world heritage of mankind as a whole”.

Recent treaties have also reiterated the need for collective action to global problems as reflected in the 1992 Biodiversity Convention and the UNFCCC. The former provides that biodiversity is “a common concern of humankind”⁴⁹ while the latter affirms that “change in the Earth’s climate and its adverse effects are a common concern of humankind”.⁵⁰ The UNFCCC preamble also notes that “the global nature of climate change calls for the widest possible cooperation by all states and their participation in an effective and appropriate international response.”

Common responsibility recognizes the need for states to act collectively. Shared benefits give them a legitimate interest in protecting resources that have a global significance. In this sense, it is arguable that common responsibility creates *erga omnes* obligations.⁵¹ The International

⁴⁶ 1967 Outer Space Treaty, Art. 1.

⁴⁷ 1971 Wetlands Convention, Preamble.

⁴⁸ 1979 Bonn Convention, Preamble.

⁴⁹ 1992 Biodiversity Convention, Preamble.

⁵⁰ 1992 Framework Convention on Climate Change, Preamble.

⁵¹ Patricia Birnie, Alan Boyle A, and Catherine Redgwell, *International Law and the Environment*, (Oxford University Press 2009), p 131.

Court of Justice (ICJ) in *Barcelona Traction Case*⁵² held that “some obligations are owed to the international community as a whole” and not just to individual states. The effect of these obligations is that they gives all states an individual and collective right to enforce a particular norm. This position has since been confirmed by the International Law Commission in the Draft Articles on Responsibility of States for Internationally Wrongful Acts 2001.⁵³

2.2.2 DIFFERENTIATED RESPONSIBILITY

The second limb of the principle of CDDRRC recognizes inherent differences between states that prevent imposition of identical obligations. It is based on Aristotle’s dictum that “things that are like should be treated alike” and those that are different should be treated differently. It is enunciated in Principle 7 of the Rio Declaration and Article 3 of the UNFCCC (which was reiterated under the Kyoto Protocol⁵⁴ and the Paris Agreement⁵⁵). Differential treatment denotes different treatment to different states. Some carry more obligations than others taking into consideration social, economic, political, and other factors. At its root is the recognition that some states have contributed more than others towards environmental degradation and that states have different capacities in terms of finances and technology to address global environmental challenges.⁵⁶

However, while the reality of differentiation has been widely accepted by the international community, its basis is still a matter of controversy on two levels. First, developing states argue that it is based on culpability of developed states while the latter maintain that it is not culpability, but ability (capacity to take remedial measures) that underlines differentiation

⁵² *Case Concerning Barcelona Traction, Light, and Power Co., Ltd* (Belgium v. Spain), ICJ Reports (1970) 3.

⁵³ Draft Articles on Responsibility of States for Internationally Wrongful Acts 2001, Article 48.

⁵⁴ Kyoto Protocol, Article 10.

⁵⁵ Preamble, Article 2 and Article 4; It is important to note that application of CDDRRC under the Paris Agreement is always qualified by the phrase “in the light of different national circumstances.”

⁵⁶ Philippe Cullet, “Differential Treatment in International Environmental Law: Addressing Critiques and Conceptualizing the Next Steps,” (2016), 5 *Transnational Environmental Law*, p 6.

(*culpability/ability distinction*). Second, there is controversy on the extent to which current responsibility should be taken into account in assessing differentiation (*historical/current contribution distinction*).⁵⁷ That is, shouldn't differentiation be an evolving concept that takes into consideration changing social, economic and political circumstances? Differentiated responsibility will be discussed below in the context of these two distinctions.

2.2.2.1 CULPABILITY/ABILITY DISTINCTION

This distinction is concerned with whether differentiation should be based on culpability of developed states for previous environmental damage or their ability in terms of greater financial and technological resources. On the one hand, it is an accepted fact that some states have contributed more to degradation of ecological spaces than others.⁵⁸ Indeed, it is precisely due to overexploitation of the earth's resources that these states developed socio-economically. This fact was reflected in the preamble of UNGA Resolution 44/228 which convened the 1992 Rio Conference. It stated, "the major cause of the continuing deterioration of the global environment is the unsustainable pattern of production and consumption, particularly in industrialized states." Paragraph 9 of the Resolution was more explicit. It noted that majority of environmental pollutants originated from developed states and as such, they carried "the main responsibility for combating such pollution." Culpability for previous environmental damage as the basis for differentiation was affirmed by the Rio Declaration. Principle 7 makes it clear that "in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities".⁵⁹

On the other hand, however, developed states have argued that their acceptance of differentiation is not an acknowledgement of international responsibility for previous

⁵⁷ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press, 2006), p 85.

⁵⁸ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 5.

⁵⁹ UN General Assembly Report of the United Nations Conference on Environment and Development (1992) UN Doc A/CONF.151/26 (Vol. I) (Rio Declaration).

environmental damage but that it is based on greater wealth and technological ability. The USA for instance, rejects any form of contribution-based differentiation instead stating that it takes a leadership role because of its wealth and superior technical expertise and capabilities.⁶⁰ Accordingly, an ability-based form of differentiation implies that as more previously-considered ‘developing’ states industrialize and become wealthy, they should take up more obligations on environmental protection.

The distinction between culpability and ability as the basis of differentiation is particularly relevant for two reasons. First, culpable states have a moral responsibility to take remedial action and non-culpable ones are entitled to assistance. This sentiment was captured by Indian Environment Minister regarding developing-country participation in the Montreal Protocol. She is quoted as saying that as developed states had created the hole in the ozone layer, “it was humbug to expect the developing states to bankrupt themselves in helping to cure it”.⁶¹ Second, culpability-linked differentiation places the responsibility to act on a fixed number of states. It, therefore, treats all other states as victims and entitles them to preferential treatment regardless of whether they are currently able to take up greater responsibility to support themselves. In the climate change context, culpability-based differentiation places greater responsibility firmly on the USA and European states as they are the ones largely responsible for historical GHGs emissions. This form of differentiation ignores the fact some developing states, led by China, have overtaken the USA and Europe in total emissions.

An ability-based form of differentiation would, in contrast, recognize that as more states move from developing to developed category, they ought to be treated differently from other developing states. For instance, high income states such as Qatar, Saudi Arabia and

⁶⁰ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press, 2006), p 78.

⁶¹ Maneka Gandhi, ‘A Lesson for Humanity: The London Meeting’, in Stephen O. Anderson and K. Madhava Sarma, *Protecting the Ozone Layer: The United Nations History* (2002), p 133.

Singapore which rank favourably in the Human Development Index⁶² are still considered developing states within the context of international climate change law and entitled to financial and technological assistance as poorer ones such as Sierra Leone and Haiti.

Notably, the lack of consensus on the culpability/ability debate is reflected in international climate change law by the fact that “common but differentiated responsibilities” is often followed by the phrase “and respective capabilities”.⁶³ Accordingly, even as responsibility is recognized as the underlying basis of differentiation, ability (capacity) also seems to play a significant role.

2.2.2.2 HISTORICAL CONTRIBUTIONS/ CURRENT CONTRIBUTIONS

DISTINCTION

Principle 7 of the Rio Declaration recognizes that differentiation is based on “different contributions to global environmental degradation.” A relevant question becomes, to what extent should historical contributions play a part vis a vis current contributions? States have divergent views with regards to this question. Developing states argue that historical contribution is the basis of differentiation while developed ones opine that current contributions must also be taken into account. This debate comes out prominently within the climate change context. Developed states have been the main contributors to the majority of current GHGs concentrations. They have disproportionately drawn from the earth’s assimilative capacity and are primarily to blame for the current climate change effects. Indeed, it is precisely because of overexploitation of the earth’s resources that these states became ‘developed.’ The majority of developing states have contributed very little to global environmental damage. Their GHGs are negligible and perhaps, explains their under-development status. Interestingly, some of the states that have contributed the least to climate

⁶² United Nations Development Programme, *Human Development Indices and Indicators: 2018 Statistical Update*, (UNDP 2018).

⁶³ UNFCCC, Article 3.1.

change such as small island developing states (SIDS), are the ones that are most vulnerable to its effects.⁶⁴

As climate change is attributable to historical contributions, many developing states have argued that developed states (which benefited from emissions through industrialization) ought to take full responsibility to address climate change.⁶⁵ However, as ‘developing’ states such as China and India overtake many developed states in total emissions,⁶⁶ the latter have disputed a historical-responsibility based form of differentiation. Instead, they have argued that current emissions also have to be taken into account as they will undermine efforts to combat climate change. That is, if GHGs are leading to climate change, then all sources of GHGs must be addressed.

The Kyoto Protocol offers a perfect case of an instance when these two forms of distinctions clashed. The Protocol, recognizing that developed states were the primary contributors to climate change, set out emission reduction targets for them. These targets were quantified and required industrialized states, individually and jointly, to return to their 1990 level of emissions by the year 2000.⁶⁷ The Protocol did not contain any limitation targets for developing states. Consequently, the USA rejected the Protocol saying that it was an ineffective means of addressing climate change since it “exempts 80 percent of the world, including major population centres such as China and India, from compliance”.⁶⁸

As this debate continues, it is noteworthy that although historical contributions impose a moral duty on developed states to be at the forefront of efforts to deal with climate change,

⁶⁴ Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*, (IPCC, 2014), p 67.

⁶⁵ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press, 2006), p 74.

⁶⁶ It is important to note that if emissions are considered in *per-capita* terms, China and India still rank below most developed nations. As such, these states have argued that their large population explains their relatively high emission levels.

⁶⁷ Kyoto Protocol, Article 4.2.

⁶⁸ President Bush to Senators Hagel, Helms, Craig, and Roberts, The White House, Office of the Press Secretary, 13 March 2001 quoted in Margot Hodson and Martin Hodson, *Cherishing the Earth: How to Care for God's Creation* (Monarch Books, 2008) p 191.

international environmental law places restrictions on current contributions as well. This obligation is customary in nature and is derived from the *Trail Smelter Arbitration* case. It was held that “no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein”.⁶⁹ This position was confirmed in *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons* where the International Court of Justice (ICJ) stated that, “the existence of the general obligation of states to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment.”⁷⁰

The implication of these cases is that although historic culpability is the underlying basis of differentiation, developing states do not have an unrestricted right to continue with GHGs emissions where such gases are causing environmental harm to the rest of the world. Indeed, this sentiment had been earlier captured by Principle 21 of the Stockholm Declaration and later reiterated in Principle 2 of the Rio Declaration which provides that:

“States have, in accordance with the Charter of the United Nations and the principles of International Law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility 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”.

Indeed, it was in appreciation that states’ emissions and capacities are changing – and the consequent need for differentiation to adapt to evolving social, economic and political contexts - that the Paris Agreement adopted CBDRRC as a guiding principle but qualified it with the phrase “in the light of different national circumstances.”

⁶⁹*Trail Smelter Arbitration* (United States v. Canada), Arbitral Trib., 3 U.N. Rep. Int’l Arb. Awards 1905 (1941).

⁷⁰ *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, 187 ICJ Reports (1996) 226, para 29.

2.3 PRINCIPLES THAT DRIVE CBDTRC IN THE CLIMATE CHANGE CONTEXT

2.3.1 SUSTAINABLE DEVELOPMENT

At the root of international environmental law negotiations is the assertion that development is a priority for most developing states. They have argued that their development needs must first be fulfilled before environmental considerations are made. This assertion has pitted developing states against developed ones with the latter largely supporting environmental protection. Developing states maintain that just as developed states achieved their development through industrialization, they (developing states) must also be allowed to develop.

The dissonance between the two sets of states is clearly manifested in the climate change context. The USA, the European Union and many other developed states have called for an inclusive regime that establishes mitigation obligations for all parties. However, fast-growing nations such as China and India have led many other developing states in rejecting such obligations. They have argued that these obligations will hinder their right to development, something that presently developed nations enjoyed. Developing nations maintain that their emissions are related to basic needs such as agriculture and energy for cooking while those from developed nations come from manufacturing and automobiles. This sentiment has been captured by two scholars who ask:

“Can we really equate the CO₂ guzzling automobiles in Europe and North America . . . with the methane emissions of draught cattle and rice fields of subsistence farmers in West Bengal or Thailand? Do these people not have a right to live? But no effort . . .

[has been made] . . . to separate out the ‘survival emissions’ of the poor, from the ‘luxury emissions’ of the rich”.⁷¹

The principle of sustainable development traces its roots to the 1972 Stockholm Conference. Held against the backdrop of and influenced by the New International Economic Order (NIEO) movement, the Stockholm Conference saw the clash of opposite views with regards to environmental protection. Developing states made it clear that priority lied in economic development while developed ones expressed support for the creation of an environmental ethic. Developing states argued that while their utilization of the environment was related to survival needs, those of the developed world were with regards to industrialization and manufacturing of luxury goods. These views were reflected in the Preamble of the Stockholm Declaration which recognized that most environmental problems in developing states “are caused by under-development” while those in the developed world are derived from “industrialization and technological development”.⁷²

Accordingly, the Stockholm Declaration reflected a balance between development and environmental protection. On the one hand, Principle 8 appreciates the importance of economic and social development for “the improvement of the quality of life” and Principle 11 provides that “environmental policies should not have an adverse effect on the development potential of developing states.” On the other hand, Principle 12 calls for increased resources in order “to preserve and improve the environment” and Principle 13 encourages “integrated and coordinated approach” to development planning “so as to ensure that development is compatible with the need to protect and improve environment.”

The compromise struck in Stockholm was reiterated 20 years later during the Rio Conference. The resulting Declaration contained numerous provisions on the need for

⁷¹ Anil Agarwal and Sunita Narain, *Global Warming in An Unequal World: A Case of Environmental Colonialism* (Centre of Science and the Environment 1991), p 3.

⁷² Preambular Paragraph 4.

environmental protection to go hand in hand with social and economic development. Principle 3 provides that “the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.” Principle 5 supports the developing-country perspective by stating that the eradication of poverty is “an indispensable requirement for sustainable development.” Principle 6 calls for consideration of “the special needs of developing states” while Principle 7 acknowledges that developed states have contributed more to environmental degradation and as such, bear more responsibility. More importantly, the Rio Declaration noted that environmental protection and economic development could not be isolated from each other through Principle 4 which considers environmental protection to be “an integral part of the development process.” Furthermore, even as Principle 1 put human beings “at the centre of concerns for sustainable development,” it declared that this must be “in harmony with nature.”

Sustainable development has grown to be accepted as an overarching principle in international environmental law.⁷³ It has been recognized by Courts as well as the international community. In the *Case Concerning the Gabčíkovo-Nagymaros Project*,⁷⁴ the court reaffirmed the need for both development and environmental protection and stated that neither could be neglected at the expense of the other. Similarly, the UNGA convened the World Summit on Sustainable Development (WSSD) by passing Resolution 55/199 which called for “a balance between economic development, social development and environmental protection” and further adding that the three were “interdependent and mutually reinforcing components of sustainable development.” A discussion on climate change law must, therefore, be seen within this context.

⁷³ Phillip Sands, *Principles of International Environmental Law*, 2nd edn, (Cambridge University Press 2003), p 206.

⁷⁴ *Case Concerning the Gabčíkovo-Nagymaros Project* (Hungary v. Slovakia), ICJ Reports 7 (1997), para 140.

2.3.2 INTRA-GENERATIONAL AND INTER-GENERATIONAL EQUITY

The World Commission on Environment and Development (Brundtland Commission) defined sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs”.⁷⁵ This definition highlights the link between sustainable development and intra-generational and inter-generational equity. The former refers to equity between members of the present generation while the latter is in relation to equity between members of the present and future generations. In this sense, these two principles call for inclusive and sustainable use of the earth’s resources for the benefit of both current and future inhabitants.

In the context of international environmental law, intra-generational equity supports equity between developed and developing states. It seeks to address wealth imbalances between the two sets of states by among other things, financial assistance, capacity-building and technology transfer. Indeed, the principle of CBDRRC is largely motivated by intra-generational equity concerns. It is because of this principle that numerous international environmental law instruments provide for special measures applying to developing states. Principle 6 of the Rio Declaration recognizes “the special situation and needs of developing states, particularly the least developed and those most environmentally vulnerable.” The Convention on Biological Diversity also requires special provisions such as increased finances and access to technology in order to meet the needs of developing states and pays particular attention to least developed states (LDCs) and Small Island developing states (SIDS).⁷⁶ Similar provisions also exist in the UNFCCC, the Vienna Convention on the Protection of the Ozone and its Montreal Protocol.

⁷⁵ World Commission on Environment and Development, *Our Common Future*, (Oxford University Press 1987).

⁷⁶ Preamble; Articles 16, 18, 19 and 10.

Inter-generational equity on its part focuses on equity between present and future generations both within developed and developing states. It sees “humanity as a partnership among all generations with each generation required to pass the planet on in no worse condition than it received it”.⁷⁷ Principle 3 of Rio Declaration provides for “the right to development for the equitable achievement of developmental and environmental needs of present and future generations.” Furthermore, international conventions on Biodiversity,⁷⁸ Climate Change⁷⁹ and Ozone Depletion⁸⁰ recognize the importance of conserving the earth and its resources for the benefit of future generations. As climate change will have a negative impact on future generations as they inherit a world with more extreme weather events and disasters; inadequate water and food; faster extinction of species; and higher prevalence of poverty,⁸¹ the principle of inter-generational equity becomes even more relevant.

2.3.3 PRECAUTIONARY PRINCIPLE

By its nature, climate action requires deliberate measures even when there is lack of full scientific certainty on its exact impacts. Indeed, Principle 15 of the Rio Declaration provides that “lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation where there are threats to the environment.” This statement is reiterated by Article 3 of UNFCCC which requires parties to “take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.” This principle is in direct opposition to claims by several states which deny the seriousness of climate change simply because there is scientific uncertainty on some aspects. As such, the precautionary principle is used in this research to

⁷⁷ Edith Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Transnational Publishers 1989), p 23.

⁷⁸ Preamble and Article 2 of 1992 Convention on Biological Diversity.

⁷⁹ Preamble and Article 3 of the 1992 UNFCCC.

⁸⁰ Although the Vienna Convention and its Montreal Protocol do not explicitly refer to inter-generational equity, its provisions are clearly aimed at protecting the Ozone layer for the safety of both present and future generations.

⁸¹ Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*, (IPCC, 2014), p 8.

argue that lack of full scientific certainty on the extent of future climate impacts and risks should not be used by states as a reason for inaction today. Furthermore, it requires appropriate action from both developed and developing states as both groups stand to be negatively affected by climate change.

2.4 CONCLUSION

This chapter has highlighted the principles on which this research is based on. It has discussed the principle of CDRRC noting that it reflected a compromise between developed and developing states on how to address global environmental challenges. Related to this agreement was the acknowledgment that social and economic development go hand in hand with environmental protection as embodied in the principle of sustainable development. Intra-generational and inter-generational equity and the precautionary principle have also been shown to be relevant in the context of international climate change law as they influence the range of actions taken by states.

CHAPTER 3

APPLICATION OF DIFFERENTIATION IN INTERNATIONAL CLIMATE

CHANGE LAW: UNFCCC AND KYOTO PROTOCOL

3.1 INTRODUCTION

The climate change regime offers the perfect example of application of the principle of CBDRRRC. This chapter discusses differentiation as manifested in the UNFCCC and the Kyoto Protocol. It first highlights the history and development of international climate change law up to Kyoto then gives a detailed analysis of the specific ways in which CBDRRRC is manifested in the two instruments. The third part then assesses the impact that CBDRRRC has had on the stability and effectiveness of the climate change law regime with a specific focus on the UNFCCC and the Kyoto Protocol.

3.1.1 HISTORY AND DEVELOPMENT OF INTERNATIONAL CLIMATE CHANGE LAW UP TO KYOTO

The impact of anthropogenic activities on the earth's environment had been the focus of the 1972 Stockholm Conference which called for the establishment of a new environmental ethic. The seriousness of the situation was further highlighted by the Bruntland Commission which called for a balance between economic development and environmental protection. As the world was becoming increasingly aware of environmental degradation, scientists began to take a keen interest in rising concentrations of carbon dioxide (CO₂) in the atmosphere. They were influenced by the 'Keeling curve' which had established a potential link between rising CO₂ levels and global warming.

Throughout the 1970s and 80s, research was carried out using new computer models which confirmed that indeed, CO₂ as well as methane and nitrous oxide were responsible for the

greenhouse effect. This realization was accompanied by studies into global temperature increases. The results confirmed the scientists' worst fears: the average global temperature had been on the rise since the end of the Second World War. Global warming concerns and the discovery of the 'Ozone hole' accentuated the need for a legal regime covering the atmosphere. The first instruments were consequently developed in the form of the 1985 Vienna Convention and its 1987 Montreal Protocol. These two Conventions covered the Ozone but did little to address rising fears on climate change.

Accordingly, in 1988, the first major international conference on climate change was held in Toronto, Canada. The outcome of the conference was a call for states to cut global CO₂ by 20% before 2005 as well as the development of an "international convention for the protection of the atmosphere." In the same year, the UNGA adopted a Resolution that termed climate change to be "a common concern of mankind".⁸² In 1989, two major influential meetings were held. The Hague Summit resulted in calls for the creation of a "new institutional authority" to address global warming⁸³ and the Noordwijk Declaration encouraged developed states to stem their GHGs emissions "as soon as possible".⁸⁴

1990 saw three major developments with a profound impact on the development of climate change law. Firstly, the IPCC released the 1st assessment report. The report indicated that if emissions remained unabated, there would "a temperature increase of 0.3° C per decade".⁸⁵ Secondly, another World Climate Conference was held and among its outcomes, was the need for states to stabilize GHGs emissions. Notably, differentiation began to emerge at this stage with the ministers in attendance agreeing that developed states should establish

⁸² UN General Assembly Resolution on Protection of Global Climate for Present and Future Generations of Mankind, G.A. Res. 53, UNGA, 43d Sess., Supp. No. 49, at 133, U.N. Doc. A/43/49 (1988).

⁸³ Hague Declaration on the Environment (1989).

⁸⁴ Noordwijk Declaration on Atmospheric Pollution and Climate Change, Nov. 7, 1989, 12 Int'l Envtl. Rep. (BNA) 624 (Dec. 13, 1989).

⁸⁵ IPCC, 'Report of the First Session of the WMO/UNEP Intergovernmental Panel on Climate Change (IPCC)' (Geneva: World Climate Programme Publications Series 1990).

emissions targets and national programs. They noted that “the principles of equity and common but differentiated responsibilities should be the basis of any global response to climate change”.⁸⁶ The third development was a Resolution⁸⁷ by the UNGA which established the Intergovernmental Negotiating Committee (INC) to develop a draft Climate Change Convention that would be ready for adoption at the 1992 Rio Conference.

Consequently, the UNFCCC was opened for signature in Rio de Janeiro in 1992 and entered into force in 1994. As the name ‘framework’ suggests, UNFCCC established a legal and institutional framework through which parties could organize regular meetings and adopt more substantive protocols.⁸⁸ It did not contain legally binding emission targets as some states – the EU and Alliance of Small Island States (AOSIS) – preferred but included mechanisms through which parties could negotiate for a more robust protocol.

Although the UNFCCC did not establish legally binding emission targets, it still included important provisions. It defined the main objective of the climate regime as “to stabilize atmospheric greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system”.⁸⁹ This was to be done within a time-frame that “permitted ecosystems to adapt naturally, protect the production of food as well as allow sustainable economic development.” It also laid out several general obligations and some differentiated ones. Moreover, the Convention created several bodies including the Conference of the Parties,⁹⁰ Secretariat,⁹¹ Subsidiary Body for Implementation (SBI),⁹² and Subsidiary Body for Scientific and Technological Advice (SBSTA).⁹³

⁸⁶ Ministerial Declaration of the Second World Climate Conference, Geneva (Nov. 6-7, 1990).

⁸⁷ UNGA Res 45/212 (21 December 1990) UN Doc A/RES/45/212 para 1.

⁸⁸ Daniel Bodansky, “The Framework Convention/Protocol Approach,” *WHO Technical Briefing Series*, (1999), p 15.

⁸⁹ Article 2, UNFCCC.

⁹⁰ Article 7.

⁹¹ Article 8.

⁹² Article 10.

⁹³ Article 9.

At the first Conference of Parties (COP-1), states agreed that the commitments created under UNFCCC were not enough. The Berlin Mandate was thus launched with the establishment of the Ad Hoc Group on the Berlin Mandate (AGBM) tasked with strengthening commitments through the “adoption of a protocol or another legal instrument.” The work of AGBM culminated in the adoption of Kyoto Protocol at COP-3 in 1997. Unlike UNFCCC, the Kyoto Protocol contained legally binding specific emission reduction targets for certain states (Annex B).

It also included four mechanisms through which parties could meet their targets and tackle climate change. These included Joint Implementation, Clean Development Mechanism, Emissions Trading and the creation of ‘bubbles’ where developed states could combine their targets and achieve them collectively.⁹⁴ The operation of these mechanisms was set out in detail in the Marrakesh Accords in 2001 before being formally adopted in 2005 in Montreal during the first Meeting of Parties (MOP-1) to the Kyoto Protocol. Furthermore, they created a compliance system and set out capacity building and technology transfer requirements for developed states. The Kyoto Protocol entered into force in 2005 after ratification by Russia.⁹⁵

3.1.2 DIFFERENTIATION IN THE UNFCCC AND THE KYOTO PROTOCOL

CBDRRC is at the centre of UNFCCC and its Kyoto Protocol. While the UNFCCC Preamble appreciated that climate change required global cooperation, it added that response must be in “in accordance with common but differentiated responsibilities and respective capabilities and their social and economic conditions.” The principle was explicitly recognized under Article 3.1 where developed states were required to “take the lead” in addressing climate

⁹⁴ Daniel Bodansky and Lavanya Rajamani, “The Evolution and Governance Architecture of the United Nations Climate Change Regime” in Urs Luterbacher and Detlef F Sprinz (eds), *International Relations and Global Climate Change* (MIT Press 2016), p 24.

⁹⁵ In addition to requiring a minimum of 55 ratifications, Article 25 of the Protocol also needed these states to account for at least 55% of global emissions (with 1990 as year of reference) before entering into force. Russia’s ratification enabled this threshold to be reached.

change. CBDRRC was then reiterated under the Kyoto Protocol which stated in its Preamble that it was guided by Article 3 of the UNFCCC.

Differentiation within the UNFCCC and Kyoto Protocol can be assessed through three categories of norms.⁹⁶ The first are provisions that differentiate developed from developing states regarding *central obligations* of a convention. The second are provisions that distinguish them based on *implementation*. These include aspects such as delayed compliance and reporting schedules, different base years, and soft approaches to non-compliance. Provisions that grant financial and technological *assistance* are the third category.⁹⁷ Application of differentiation in the UNFCCC and the Kyoto Protocol is explored in the context of these three categories.

3.1.2.1 Differentiation in Central Obligations

The central obligation of the UNFCCC and the Kyoto Protocol is defined in Article 2 of the former as “the stabilization of atmospheric GHGs concentrations at a level that would prevent dangerous anthropogenic interference with the climate system.” To achieve this objective, both Conventions apply CBDRRC and differentiate between developed and developing states. This is done through Annexes with UNFCCC having Annex I parties (developed states plus those with economies in transition), Annex II parties (developed states) and non-Annex parties (developing states).

In addition to laying out general obligations that applied to all parties, UNFCCC also contained specific obligations for developed parties. These central obligations are in Article 4.2 and apply only to Annex I parties. They are required, among other things, “to adopt national policies and measures to mitigate climate change” through limiting GHGs emissions and enhancing GHGs sinks; and periodically communicate the measures that have been

⁹⁶ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press 2006), p 93.

⁹⁷ *Ibid*, p 94-114.

undertaken including calculation of emissions. These provisions are consistent with the requirement for developed states to lead climate change efforts “with the aim of returning individually or jointly to their 1990 levels” by 2000.⁹⁸

The Annex-based mode of differentiation in the UNFCCC was replicated in the Kyoto Protocol which distinguished between Annex B parties (developed states and those with economies in transition) and non-Annex parties (developing states). Notably, while the Protocol affirms the general obligations for all parties in the UNFCCC, it creates specific obligations that apply exclusively to developed states (Annex B/I).⁹⁹ Article 3 lays out their main obligation as ensuring that their overall emissions are reduced “either individually or jointly by at least 5% below 1990 levels in the 2008-2012 commitment period.”¹⁰⁰

Through the Protocol, states also accepted individual targets based on their previous emission levels. The EU, for example, agreed to reduce its emissions by 8% of their 1990 levels by 2012. Furthermore, Annex B/I parties are tasked with putting up national GHGs inventory systems to record emissions and removals by sinks and making communications with detailed information on their climate change mitigation policies and actions. This information is subsequently reviewed by expert review teams in accordance with Article 8 of the Protocol. It is important to note that these obligations do not apply to developing states unless they form part of the general obligations under Article 4.1 of UNFCCC.

3.1.2.2 Differentiation in Implementation

Differentiation under this category shows that this principle was agreed in recognition of different levels of culpability in causing climate change as well as inequality in terms of resources. It acted as the link between developed and developing states and allowed them to

⁹⁸ Article 4.2.b.

⁹⁹ Annex B parties in Kyoto Protocol are the same parties in Annex I of UNFCCC (hence their categorization as ‘Annex B/I’) in this paper.

¹⁰⁰ Article 3.1.

engage in cooperative action to address the global challenge of climate change. Accordingly, various provisions within the UNFCCC and Kyoto Protocol differentiate states in relation to their implementation obligations taking into consideration their capacities. These include aspects such as delayed compliance and reporting schedules, adoption of different base years, and soft approaches to non-compliance.

From its preamble, the UNFCCC makes it clear that there are social, economic and historic reasons that may impact the implementation of the Convention. It recognizes that developed states accounted for the majority of historical global emissions. It further noted that *per capita* emissions in developing states were still relatively low and were expected to grow as these states developed socio-economically. The Preamble also calls for consideration of environmental and development contexts in which standards apply recognizing that some standards may be inappropriate to developing states and result in “unwarranted economic and social costs.” Preambular paragraph 21 is cognisance of the fact that development and eradication of poverty are “legitimate priorities of developing states” and as such, the Convention needs to be read in that context.

It is also noteworthy that in addition to developing states being given special consideration, the Preamble also recognizes specific groups that need extra attention. These include “low-lying and small island states; states with low-lying coastal, arid and semi-arid areas; states with areas liable to floods, drought and desertification; and developing states with fragile mountainous ecosystems.”¹⁰¹ States that are fossil fuel-dependent are also mentioned.¹⁰²

Differential treatment in the UNFCCC goes past the preamble and appears in operational provisions as well. Article 3 identifies CBDRRC as an underlying principle of the Convention and calls for full consideration of the “specific needs and special circumstances”

¹⁰¹ Paragraph 19.

¹⁰² Paragraph 20.

of developing states. It is for this reason that Article 4 created different obligations for Annex I and non-Annex I parties. Differentiation in implementation is manifested in operational provisions of UNFCCC and Kyoto through several ways.

First, developing states are given some leeway with regards to reporting schedules. While the UNFCCC requires developed states to submit their initial reports within 6 months, developing states have up to 3 years to do this. Furthermore, when it comes to LDCs, the submission of the initial report is totally at their discretion. The UNFCCC also imposes more obligations on developed states with regards to national communications. While both developed and developing parties are required to make national communications on their emissions and removals, the former are to go further and include a detailed description of measures and policies that have been put in place to implement their specific commitments. They should also provide an estimate of the effect that these measures and policies are having on reducing emissions and enhancing GHGs sinks. Notably, the Kyoto Protocol does not contain any obligations for developing states except reiterating the general ones under the UNFCCC.¹⁰³

Second, the UNFCCC and the Kyoto Protocol differentiate between states by allowing those with economies in transition (CEITs) to adopt different base years. Article 4.6 of UNFCCC permits EITs to “a certain degree of flexibility” in implementing their obligations. This leeway is reflected in Article 3.6 of the Protocol which provides that EITs may notify the Conference of Parties (COP) that it intends to use “a different base year or period other than 1990” in the implementation of its obligations.

The third manifestation of differentiation in implementation is through the establishment of a compliance procedure for developed states that is different from the one that applies to

¹⁰³ Article 10 of the Protocol.

developing ones. Under the Kyoto Protocol,¹⁰⁴ parties agreed to establish a compliance committee with two branches: the enforcement branch and the facilitative branch.¹⁰⁵ The latter applies to both developing and developed states while the former applies only to developed states. The effect of these two branches is that developing states are only ‘facilitated’ to meet their commitments (e.g. through financial and technological assistance) while developed states may be penalized for non-compliance.¹⁰⁶ Penalties may take the form of subtracted tons from the country’s emission target in the next commitment period.¹⁰⁷

3.1.2.3 Differentiation in Granting Assistance

At the root of the principle of CBDRRC is the acknowledgment that states have different financial and technological capacities to address global environmental concerns. Differentiation, thus, inevitably implies that developed states need to assist developing ones in dealing with climate change. This fact was reflected in the UNFCCC where it was noted that developing states’ implementation of their obligations depended on assistance from developed states.¹⁰⁸ Accordingly, the Convention requires developed states to “provide new and additional financial resources” including technological assistance, to assist developing states in preparing their national GHG inventories and preparation of reports.¹⁰⁹ It obligates them to assist developing states in adapting to climate change.¹¹⁰ Article 4.9 further requires parties to consider “specific needs and special situations of the least developed states in their actions with regard to funding and transfer of technology.”

¹⁰⁴ Article 18 of the Protocol.

¹⁰⁵ UNFCCC, Decision 27/CMP.1 (2006).

¹⁰⁶ Geir Ulfstein and Jacob Werksman, ‘The Kyoto Compliance System: Towards Hard Enforcement’, in *Implementing the Climate Regime* (Olav Schram Stokke et al. eds., 2005), p 54.

¹⁰⁷ *Ibid* p 55-58.

¹⁰⁸ Article 4.7

¹⁰⁹ Article 4.3.

¹¹⁰ Article 4.4.

The Kyoto Protocol requires parties to take “all practicable steps” to facilitate finances and the transfer of technologies in “particular to developing states”.¹¹¹ The Protocol strengthens the financial and technological assistance commitments stipulated by Article 4 of the UNFCCC. It requires Annex II parties to “provide new and additional financial resources to meet the agreed full costs” incurred by developing states in establishing, updating and publishing national GHGs inventories.

In order to facilitate assistance to developing states, the UNFCCC created a financial mechanism¹¹² and designated the Global Environment Facility (GEF) as the operating entity on an interim basis.¹¹³ Climate finance was later enhanced by the creation of three other funds by the Marrakesh Accords. The Special Climate Change Fund provides finances to adaptation activities and technology transfer as well as projects in energy, forestry, and waste management, among others. The Kyoto Protocol Adaptation Fund supports adaptation programmes in developing states and the Least Developed States Fund is dedicated to supporting LDCs in mitigation and adaptation projects.¹¹⁴

3.2 IMPACT OF DIFFERENTIATION ON THE CLIMATE REGIME: FROM THE UNFCCC TO THE KYOTO PROTOCOL

The impact of differentiation on the stability and effectiveness of the UNFCCC and the Kyoto climate regime is mixed with both positive and negative aspects. On the positives, CBDRRC brought together states with different social, economic, geographic and historical contexts to address the global challenge of climate change. CBDRRC also contributed to the development of several flexibility mechanisms that promoted climate action in both developed and developing states. Lastly, CBDRRC facilitated financial assistance and

¹¹¹ Article 10.c of the Protocol.

¹¹² Article 11.

¹¹³ Article 21.3.

¹¹⁴ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press 2006), p 208.

transfer of technology from developed to developing states. On the negative aspect, however, CDRRC in the UNFCCC and the Kyoto Protocol threatened the stability of the climate regime by failing to include large emitters. It contributed to inadequacy of measures and led to disillusionment with the climate change framework that almost led to its collapse.¹¹⁵

3.2.1 The Positive Impact of CDRRC

3.2.1.1 Enhanced Global Cooperation

The first positive impact of the principle of CDRRC is that it enabled both developed and developing states to cooperate in addressing a global environmental challenge. Without differentiation, states with different social, economic, geographic and historical contexts would not have been sufficiently motivated to deal with climate change. CDRRC recognized different levels of historical responsibility and capabilities and put them into effect in the UNFCCC and the Kyoto Protocol which established different obligations on different sets of states based on Annexes. Accordingly, the utility of CDRRC was the construction of a regime that was seen as fair and equitable. Indeed, it is through CDRRC that both the UNFCCC and the Protocol received almost universal acceptance with 197 and 192 Parties respectively.

3.2.1.2 Development of Flexibility Mechanisms

Secondly, differentiation, particularly in the Kyoto Protocol, made it possible for the development of flexibility mechanisms that led to the relative success of the Protocol. CDRRC, while influencing the imposition of more obligations on developed states, also recognized the need for flexibility in achieving them. In the negotiation phase of the Protocol, states such as the USA were willing to accept harder commitments only if they were allowed a level of flexibility. Indeed, as early as 1997, there were discussions on whether developing

¹¹⁵ Per Meilstrup, "The Runaway Summit: The Background Story of the Danish Presidency of COP15," *Danish Foreign Policy Yearbook*, (2010), p 122-134.

states should also take up emission limitation targets. The USA pushed for their inclusion but developing states resisted these attempts. As a compromise, the Protocol did not include any quantified emission limitations for developing states but gave developed states flexibility in meeting their commitments.¹¹⁶ The flexibility mechanisms included Joint Implementation, the Clean Development Mechanism, Emissions Trading, and the creation of ‘bubbles.’

Joint Implementation is provided for under Article 6 of the Protocol. It allows Annex I/B states to earn Emission Reduction Units (ERUs) by undertaking projects that reduce emissions in other developed states. These reductions must be additional to any other that might have otherwise resulted from the project. The Clean Development Mechanism is laid out in Article 12. It permits developed and developing states to work together to reduce emissions. Public and private entities in developed states may fund low-carbon projects in developing states and as a result, earn “certified emission reductions” (CERs) that these states may use to fulfil their commitments under the Protocol. The Clean Development Mechanism has been extremely successful and has resulted in more than 10,000 projects in developing states and generated around 8.4 billion CERs.¹¹⁷ In this sense, although CDRRC led to the imposition of more obligations on developed states, it benefited developing ones as well.

The Kyoto Protocol also established an emissions trading system in Article 17. Annex I/B parties were each given Assigned Amounts Units (AAUs) that they could trade amongst themselves. States with a surplus of units could sell them to those which had exhausted their allocations. The emissions trading system gave flexibility to developed states as they could meet their targets collectively. The EU Emissions Trading Scheme (EU-ETS) is the most active market for emissions. It covers 11,000 installations in 31 states and accounts for 45%

¹¹⁶ Daniel Bodansky and Lavanya Rajamani, “The Evolution and Governance Architecture of the United Nations Climate Change Regime” in Urs Luterbacher and Detlef F Sprinz (eds), *International Relations and Global Climate Change* (MIT Press 2016), p 23.

¹¹⁷ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 218.

of the EUs GHG emissions.¹¹⁸ The final flexibility mechanism is found in Article 4 which allows creation of ‘bubbles.’ Here, a group of developed states can combine their targets and achieve them collectively as the EU has done.

Through these mechanisms, all Annex I/B parties (excluding the USA which refused to ratify the Protocol and Canada which pulled out) fulfilled their commitments. Indeed, majority of Annex I/B states had lower emissions than they had committed to reduce under the Protocol.¹¹⁹ Research shows that Kyoto participating states reduced their emissions by 24% while the joint commitment was a reduction of “5% below 1990 levels” in the 2008-2012 period.¹²⁰ While most of the reduction was due to economic recession and restructuring, the flexible mechanisms played a significant role.¹²¹

3.2.1.3 Facilitation of Climate Finance and Technology Transfer

The third positive impact of CBDRRC under the UNFCCC and the Kyoto Protocol was its facilitation of climate finance and the transfer of technology. Both instruments¹²² required developed states to provide finances and technology to developing ones with the recognition that not doing so would hinder the ability of the latter to satisfy their own obligations.¹²³ As a result, the UNFCCC designated the GEF to be the operating entity of the finance mechanism of the Convention.¹²⁴ The three funds created under the Kyoto Protocol have also assisted developing states in climate mitigation and adaptation. Public and private investments in climate finance have tremendously improved and it is estimated that they now stand at more

¹¹⁸ Daniel Bodansky and Lavanya Rajamani, “The Evolution and Governance Architecture of the United Nations Climate Change Regime” in Urs Luterbacher and Detlef F Sprinz (eds), *International Relations and Global Climate Change* (MIT Press 2016), p 23.

¹¹⁹ Romain Morel and Igor Shishlov, “Ex-Post Evaluation of the Kyoto Protocol: Four Key Lessons for the 2015 Paris Agreement,” *Climate Report* (2014), p 5.

¹²⁰ *Ibid*, p5.

¹²¹ Bert Metz, “The Legacy of the Kyoto Protocol: A View from the Policy World,” *WIREs Climate Change* (2013), p 151-155.

¹²² Article 4.3 UNFCCC and Article 10 Kyoto Protocol.

¹²³ Article 4.7 UNFCCC.

¹²⁴ In 2010, Parties established the Green Climate Fund (GCF) and also designated it as an operating entity of the financial mechanism of the UNFCCC.

than US\$400 billion per year.¹²⁵ Attempts have also been made to transfer technology to developing states. Through the Clean Development Mechanism for example, developed states transferred technology to developing states in 30-40% of the projects.¹²⁶

However, there has been a lot of controversy on the sources of funds provided by developed states. Developing states argue that climate finance should be primarily from public sources while developed states maintain that private investments also count. Developing states also doubt the authenticity and accuracy of figures given by developed states on the amount of funds that have been channelled to climate change efforts saying that these have been exaggerated.¹²⁷ While this debate is important, its examination is outside the scope of this paper. The relevant thing to note is that while developed states have undoubtedly provided finance and technology to developing states, their levels are still far less than what is necessary for the latter to adequately undertake mitigation and adaptation measures.¹²⁸

3.2.2 Negative Impact of CDDRRC

3.2.2.1 Exclusion of Major Emitters

A major drawback of CDDRRC as provided for in the UNFCCC and applied in the Kyoto Protocol was its exclusion of major emitters. When these instruments were negotiated in the 1990s, developed states were ready to accept more obligations since they were the leading GHGs emitters. Consequently, Parties were distinguished through Annexes and took up differentiated commitments including quantified emission limitation targets as laid out in the Kyoto Protocol. However, since that period, some ‘developing’ states have overtaken developed states in total emissions. In 2007, China overtook the USA as the biggest CO₂

¹²⁵ Climate Policy Initiative, *Global Climate Finance: An Updated View*, (CPI 2018), p 2.

¹²⁶ UNFCCC Secretariat, *The Contribution of the CDM under the Kyoto Protocol to Technology Transfer*, (UNFCCC 2010), p 10.

¹²⁷ Romain Weikmans and J. Timmons Roberts, “The International Climate Finance Accounting Muddle: Is There Hope on the Horizon?” *Climate and Development* (2017), p 2.

¹²⁸ World Bank, *World Development Report 2010: Development and Climate Change* (Washington, D.C.: World Bank, 2010), p 259.

emitter. In 2017, it accounted for 27% of global emissions while the USA accounted for 13% and the EU at 9% (excluding land use changes).¹²⁹ Rapid industrialization of India and Brazil has also led to higher emissions than most states in Annex I/B. Furthermore, today, several ‘developing’ states have higher per capita income than the poorest ‘developed’ (Annex I/B) states.

It has, thus, been argued that the differentiation model of UNFCCC and the Kyoto Protocol is unsuitable to current economic and political realities. The USA was the first country to express disillusionment with the regime by refusing to ratify the Protocol. Former USA President Bush justified the decision by stating that it was an ineffective means of addressing climate change since it “exempts 80 percent of the world, including major population centres such as China and India, from compliance.”¹³⁰ According to the USA, mitigation efforts must be applicable to all major emitters since limitations by one state will be undermined by continued emissions from others. If the climate regime is to be effective, all sources of GHGs must be addressed.¹³¹

However, ‘developing’ states led by China and India have argued that although their emission levels have risen, developed states are still responsible for the majority of cumulative (historic) concentrations of GHGs. As such, they have the moral responsibility to shoulder all the burden. Furthermore, they have pointed out that while their total emissions are high, in *per capita* terms, they still rank lower than most developed states.¹³²

The debate on the application of CDDRRC has led to a serious conundrum. Major emitters such as the USA are not willing to accept commitments if there is no developing-country

¹²⁹ United Nations Environment Programme, *Emissions Gap Report 2018*, (UNEP 2018), p 7.

¹³⁰ President Bush to Senators Hagel, Helms, Craig, and Roberts, The White House, Office of the Press Secretary, 13 March 2001 quoted in Margot Hodson and Martin Hodson, *Cherishing the Earth: How to Care for God's Creation* (Monarch Books, 2008) p 191.

¹³¹ Samuel Thernston, “The Quiet Death of the Kyoto Protocol,” *The American* (2009), retrieved from <http://www.aei.org/publication/the-quiet-death-of-the-kyoto-protocol/> on 16th January 2019.

¹³² Rafael Leal-Arcas, “Kyoto and the COPs: Lessons Learned and Looking Ahead” in Nikos Lavranos and Ruth A. Kok (eds.), *Hague Yearbook of International Law*, (Brill 2010), p 67.

participation while developing states on their part are against accepting identical obligations as they argue that such a move will hinder their social and economic development.¹³³ The most notable casualty of this fundamental disagreement has been the Kyoto Protocol. Citing non-participation of China and the USA, several developed states such as Japan and Russia have opted out of the second commitment period (2012-2020). Indeed, obligations for this period are unlikely to be implemented since the Doha Amendment (which establishes this period) has been ratified by 112 states (most of whom are minor emitters) yet it requires 144 parties (covering 55% of all emissions) for it to enter into force.

Accordingly, it could be argued that differentiation, a fundamental pillar of the climate regime, has been largely responsible for its non-effectiveness due to different perceptions on its fairness. The 2015 Paris Agreement has attempted to cure this defect by moving away from differentiation along developed-developing country lines to *self-differentiation*.¹³⁴

3.3 CONCLUSION

CBDRRC is entrenched in international climate change law. It has been applied in the UNFCCC and the Kyoto Protocol through differentiated norms with regards to central obligations, implementation, and granting of assistance. Consequently, it has been successful in bringing together states with different social, economic, geographic and historical contexts to address the global challenge of climate change. It has also contributed to significant benefits through the transfer of finances and technology from developed to developing states. On the flipside, however, CBDRRC has limited the effectiveness of the climate regime due to its exclusion of major emitters. It is precisely because of this weakness that parties modified the application of this principle in the 2015 Paris Agreement and moved from Annex-based differentiation to self-differentiation as will be discussed in the next chapter.

¹³³ Ibid.

¹³⁴ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 29.

CHAPTER 4

DIFFERENTIATION IN THE PARIS AGREEMENT

4.1 FROM KYOTO TO PARIS: THE EVOLUTION OF CDRRC

In February 2005, the Kyoto Protocol finally entered into force and later that year, the first Meeting of Parties (MOP-1) was held in Montreal, Canada. Among the first issues to be considered by the MOP was the adequacy of the Protocol's commitments and the need to enhance them after 2012 (when the first commitment period was scheduled to end). Consequently, the parties agreed to initiate an Ad Hoc open-ended Working Group on Further Commitments (AWG-KP). The AWG-KP was to complete its work before the commencement of the second commitment period. At the same time, the Conference of Parties (COP-11) recognized that further efforts were needed to strengthen climate action under the UNFCCC. It thus launched a dialogue "to exchange experiences and analyse strategic approaches for long-term cooperative action to address climate change" (Dialogue).¹³⁵ Notably, while the AWG-KP was to consider further commitment for Annex I/B parties only, the Dialogue was to cover all actions although the COP decision specifically stated that it would not result in any new commitments.¹³⁶

In COP-13, the work of the Dialogue was formalized by Parties through the adoption of the Bali Action Plan (BAP). The BAP was influenced by results of IPCC's fourth assessment report which had indicated that massive emission cuts were needed. It thus launched the Ad-Hoc Working Group on Long-term Cooperative Action (AWG-LCA). The task of the AWG-

¹³⁵ Decision 1/ CP.11, FCCC/ CP/ 2005/ 5/ Add.1 (30 March 2006) para 1.

¹³⁶ Jane Bulmer, Meinhard Doelle, and Daniel Klein, "Negotiating History of the Paris Agreement" in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 54-55.

LCA was to arrive at an “agreed outcome” to promote implementation of the UNFCCC through “long- term cooperative action.” Interestingly, the BAP contained elements of dual responsibilities for both developed and developing states. For the former, the AWG-LCA was tasked with proposing “nationally appropriate mitigation actions, including quantified emission limitation targets.” For developing states, it was supposed to negotiate an agreement with “nationally appropriate mitigation actions” within the context of sustainable development and supported by finances, technology and capacity building. Both AWG-LCA and the earlier AWG-KP were scheduled to complete their work in time for adoption at COP-15 in Copenhagen, Denmark.¹³⁷

In the run up to COP-15, the work of the AWG-LCA was characterized with major disagreements on the legal nature of the “agreed outcome” and the future of differentiation. Developed states preferred an outcome that would create parallel obligations for both developed and developing states arguing that social and economic circumstances had changed since the UNFCCC was adopted.¹³⁸ The USA, for instance, was adamant that the climate regime being negotiated must include all major emitters, including China and India. These arguments were, however, fiercely rebuffed by developing states who maintained that CBDRRC was an underlying principle of the climate regime. According to them, altering the application of this principle was akin to amending the UNFCCC.¹³⁹

As a result of these substantive differences as well as procedural mishaps, COP-15 failed to deliver the “agreed outcome” that had been envisaged by the BAP. Instead, 28 Parties, including all the major emitters, agreed on a deal called the Copenhagen Accord. The Accord, however, having been negotiated outside the official UNFCCC process was

¹³⁷ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 48.

¹³⁸ Lavanya Rajamani, “Differentiation in the Emerging Climate Regime” *Theoretical Inquiries in Law* 14 (2013), p 157.

¹³⁹ Rafael Leal-Arcas, “Kyoto and the COPs: Lessons Learned and Looking Ahead” in Nikos Lavranos and Ruth A. Kok (eds.), *Hague Yearbook of International Law*, (Brill 2010), p 27.

categorically rejected when presented to the other COP members by several states including Nicaragua, Ecuador, Venezuela, Bolivia, Sudan and Tuvalu. Due to lack of consensus, the COP could not adopt the Accord but decided to “take note” of it.¹⁴⁰

Although the Copenhagen Accord was not formally adopted, it was responsible for shaping up the architecture that would be adopted in Paris 6 years later. It also set the stage for the evolution of CBDRRC as applied in the UNFCCC and the Kyoto Protocol. The Accord called for both developed and developing states to undertake mitigation actions. Developed states would set their own emission reduction targets and communicate these to the Secretariat of the UNFCCC. Developing states, on their part, would prepare “nationally appropriate mitigation actions” as part of their climate response. The effect of the Accord was that the Annex-based form of differentiation which only set mitigation obligations on developed states was eroded. In the Accord, both developed and developing states committed to undertake (non-binding) mitigations targets and actions.¹⁴¹

Furthermore, the Accord introduced a system of pledge and review where states would set their own national targets as opposed to the Kyoto system of internationally agreed targets. In addition to a reformulation of differentiation, the Accord resulted in two other positive outcomes. First, it set 2°C as the average global temperature rise that should not be exceeded.¹⁴² Second, developed states committed to channel \$30 billion in climate finance to developing states with a focus on LDCs, SIDS, and African states from 2010 to 2012 and \$100 billion per year from 2020.¹⁴³

¹⁴⁰ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 182.

¹⁴¹ Lavanya Rajamani, “Differentiation in the Emerging Climate Regime” *Theoretical Inquiries in Law* 14 (2013), p 160.

¹⁴² The UNFCCC had defined the objective of the climate regime but had not set the specific temperature increase that was required to prevent dangerous anthropogenic interference with the climate system.

¹⁴³ Report of the Conference of the Parties on its Fifteenth Session, held in Copenhagen from 7 to 19 December 2009 available at <https://unfccc.int/resource/docs/2009/cop15/eng/11.pdf>

A year later in Cancun, Mexico, COP-16 formally adopted most of the proposals under the Copenhagen Accord thus inculcating them within the UNFCCC process. The Cancun Agreements reiterated that the average global temperature increase ought to stay below 2°C above preindustrial levels. They also formalized the commitments undertaken by Parties under the Accord by laying out the “emission reduction targets” of developed states and the “nationally appropriate mitigation actions” of developing states. Notably, it was in Cancun that the first time the official UNFCCC process recognized the role of developing states in undertaking concrete mitigation actions by urging them to strive towards a “deviation in emissions relative to business as usual” by 2020.¹⁴⁴

After Cancun, states became increasingly interested in a legally binding agreement to crystallize the commitments contained in the Cancun Agreements. The Alliance of Small Island States (AOSIS), for instance, believed that lack of an immediate global instrument was a direct threat to the existence of their states which were already suffering from sea level rises. Attention was also paid to the future of the Kyoto Protocol as the end of its first commitment period was fast approaching. The EU indicated its willingness to extend it for a second commitment period but only if COP-17 resulted in a roadmap towards a “global and comprehensive legally binding agreement”.¹⁴⁵

COP-17 thus represented a critical juncture in the evolution of the climate regime as parties met in Durban, South Africa. Developing states such as China and India were against a legally binding agreement that would be applicable to all parties while developed states refused to agree to any new commitments under the Kyoto Protocol unless developing states with high emissions also took a meaningful role in curbing them. Furthermore, the Umbrella

¹⁴⁴ Report of the Conference of the Parties on its Sixteenth Session, held in Cancun from 29 November to 10 December 2010 available at <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

¹⁴⁵ Lavanya Rajamani, “Differentiation in the Emerging Climate Regime” *Theoretical Inquiries in Law* 14 (2013), p 163.

Group¹⁴⁶ was unsatisfied with the bifurcated nature of AWG-LCA. According to them, the outcomes under the process still reflected the Annex-based approach applied in the UNFCCC and the Kyoto Protocol. They interpreted this as creating a ‘firewall’ between actions of developed states on those of developing states. To them, a new instrument had to include both groups of states without bifurcation in annexes.

The differences between developed states who wanted universal participation and developing states who defended differentiation was resolved through the Durban Mandate. Parties agreed to establish the Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP) whose mandate was to “develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties.” The outcome of the AWG-ADP was to be “ready for adoption at COP-21” in Paris.¹⁴⁷

Notably, the Durban Mandate failed to include any reference to the principle of CBDRRC.¹⁴⁸ Indeed, it specified that the outcome was to be “applicable to all parties.” As such, COP-17 offered a heavy blow to the bifurcated form of differentiation that had been applied up to that point. The following year at COP-18 in Doha, Qatar, Parties terminated the mandates of AWG-LCA and the AWG-KP. Termination of the former was because its work had been overtaken by the AWG-ADP. The work of the AWG-KP was also brought to an end as Parties agreed to a second commitment period under the Kyoto Protocol as reflected in the Doha Amendment.¹⁴⁹

¹⁴⁶ Comprises Australia, Belarus, Canada, Iceland, Israel, Japan, New Zealand, Kazakhstan, Norway, the Russian Federation, Ukraine and the United States.

¹⁴⁷ Report of the Conference of the Parties on its Seventeenth Session, held in Durban from 28 November to 11 December 2011, available at <https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>, para 1.

¹⁴⁸ The phrase ‘under the Convention,’ however, implied that all UNFCCC principles, including CBDR, would be retained.

¹⁴⁹As noted in Chapter 3, however, several developed states such as Japan and Russia have opted out of the second commitment period and it appears unlikely that the Doha Amendment will be implemented since it has been ratified by 112 states (most of which are minor emitters) yet it requires 144 parties (covering 55% of all emissions) for it to enter into force.

The Durban Mandate and developments that took place between 2012 and 2015 had a profound impact on the legal form and substance of the Paris Agreement. At COP-19 in Warsaw, Poland, Parties agreed on what was to be the cornerstone of new climate agreement.¹⁵⁰ All parties were invited to “prepare their intended nationally determined contributions (INDCs).” This decision signalled a departure from the top-down Kyoto system where binding-emission limitation targets were internationally negotiated, to a bottom-up approach characterized with nationally determined pledges that had been first proposed in the Copenhagen Accord.¹⁵¹ The following year in Lima, Peru, Parties made the Lima Call for Climate Action which among other things, elaborated information that should appear within INDCs and urged developed states to mobilize climate finance. Notably, it also noted that “other parties” could provide finance to developing states (implying that developing states could transfer funds to other developing states).

In 2015, the process that had been launched by the Durban Mandate and refined in Warsaw and Lima culminated in the Paris Agreement at COP-21. It attracted universal support due to its unique architecture which combined the bottom-up element of NDCs with a robust top-down transparency and review mechanism. It also found a way to maintain the principle of CBDRRC without replicating the bifurcated system of the UNFCCC and the Kyoto Protocol.¹⁵² Indeed, its wide acceptance was reflected by the fact that it entered into force less than a year after its adoption (November 4, 2016).

4.1.2 SELF-DIFFERENTIATION IN THE PARIS AGREEMENT

The Paris Agreement requires the preparation and communication of Nationally Determined Contributions (NDCs) coupled with an international review system. It moves away from

¹⁵⁰ Sandrine Maljean-Dubois, “The Paris Agreement: A New Step in the Gradual Evolution of Differential Treatment in the Climate Regime?” *Review of European Comparative International Environmental Law*, (Wiley 2016), p 152.

¹⁵¹ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 180.

¹⁵² Todd Stern, ‘The Paris Agreement and Its Future,’ *Brookings Institution* (2018), p7.

differentiation along the Annex-based developed-developing country lines to *self-differentiation*.¹⁵³ It does not create specific categories of parties and its obligations are not tailored to any specific category. Instead, it tailors differentiation according to the issue that is being addressed – mitigation, transparency, capacity building, finance and adaptation.¹⁵⁴ Indeed, the Paris Agreement embodies a much changed form of CDRRC from the one applied in the UNFCCC and the Kyoto Protocol in that while it recognizes CDRRC as a relevant principle, it qualifies it with the phrase, “in light of different national circumstances”¹⁵⁵ (represented as “CDRRC-NC” in this section). Differentiation in the Paris Agreement will thus be assessed not with respect to a bifurcated system along developed-developing country line but relating to the issue that is being addressed.

4.1.2.1 Mitigation

The Paris Agreement offers a unique form of differentiation with regards to mitigation. On the one hand, as opposed to the Kyoto Protocol which divided states into two main groups (Annex B and non-Annex parties) and established emission reduction commitments for developed states only, the Paris Agreement contains mitigation obligations for all Parties. On the other hand, however, using CDRRC-NC as a principle, the mitigation obligations of developed states are not identical to those of developing states. The Paris Agreement applies a more nuanced form of differentiation in that it is neither bifurcated nor unitary.¹⁵⁶

Article 4.2 requires each party to “prepare, communicate and maintain successive NDCs that it intends to achieve” and obligates them to undertake domestic measures to implement their NDCs. Article 4.3 adds that NDCs need to be progressive in that subsequent ones must

¹⁵³ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 29.

¹⁵⁴ Lavanya Rajamani, “Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics,” (2016), 65 *International and Comparative Law Quarterly*, p 509.

¹⁵⁵ Preamble paragraph 3, Article 2.2, Article 4.3 and Article 4.19.

¹⁵⁶ Harald Winkler, “Mitigation (Article 4)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 141.

exhibit more ambition than previous ones in accordance with CBDRRC-NC. The Paris Agreement also requires the NDCs to be submitted every 5 years¹⁵⁷ with “information necessary for clarity, transparency and understanding”¹⁵⁸ By using the phrase *each party*, the Paris Agreement makes it clear that the preparation and communication of NDCs and the requirement of progression is an obligation that applies to both developed and developing parties. In this sense, each party chooses what to include in its NDC without specific requirements for any categories of parties (self-differentiation). The Paris Agreement does not specify any common features that must be covered within NDCs but leaves this at the discretion of the parties. At COP-24 held in 2018 in Katowice, Poland, parties adopted the ‘Paris Rulebook’¹⁵⁹ which confirmed that provision of information on “clarity, transparency and understanding” in the NDC was applicable to *all* parties with flexibility offered by the fact that states had the freedom to include in their NDC any information that they deemed useful.

Interestingly, even as Paris Agreement imposes mitigation obligations on both developed and developing states, it still contains some differentiated elements. First, borrowing from UNFCCC language, developed states are required to lead mitigation efforts.¹⁶⁰ Second, the nature of their mitigation efforts are slightly dissimilar in that for developed states, they are required to undertake “economy-wide absolute emission reduction targets” (EAERTs) while developing states are urged to “move over time towards economy-wide emission reduction or limitation targets (EERLTs) in the light of different national circumstances”.¹⁶¹ ‘Absolute reductions’ refer to lower annual emissions in reference to a historical base year and contain

¹⁵⁷ Article 4.9.

¹⁵⁸ Article 4.8.

¹⁵⁹ A detailed collection of rule and modalities that fleshed out many of the obligations under the Paris Agreement.

¹⁶⁰ But the provision uses the word ‘should’ rather than the stronger ‘shall.’

¹⁶¹ Article 4.4.

an element of stringency that ‘limitations’ does not.¹⁶² Developing states are also given a leeway with regards to when the EERLTs should be applied through the phrase “move over time” and in “light of different national circumstances.”¹⁶³

4.1.2.2 Finance

The Paris Agreement picks up from the UNFCCC which recognized the importance of finances in climate change mitigation and adaptation. Indeed, one of its objectives is listed as “making finance flows consistent with a pathway towards low GHGs and climate-resilient development”.¹⁶⁴ To this end, it largely maintains the differentiation of parties that was characteristic of the UNFCCC and the Kyoto Protocol by placing the obligation of providing finance on developed states.¹⁶⁵ Article 9.1 use the mandatory term, ‘shall’ in reference to the duty of developed states to assist developing ones. Developed states also bear the primary responsibility of mobilizing climate finance as reflected in Article 9.3 which provides that they should “continue to take the lead.” The decision that accompanied the Agreement stated that the goal of US\$100 billion per year that had been agreed in Cancun was to be reassessed before 2025.¹⁶⁶

Developed states also have a duty to biennially provide (quantitative and qualitative) information on finances provided and mobilized for assistance to developing states.¹⁶⁷ At COP-24 in Katowice, Parties provided that this provision required information on among other things, projected levels of public resources including the methodologies and assumptions used, the criteria used to evaluate climate finance providers, the type of support

¹⁶² Harald Winkler, “Mitigation (Article 4)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 151.

¹⁶³ Ibid.

¹⁶⁴ Article 2.1.c

¹⁶⁵ Lavanya Rajamani, “Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics,” (2016), 65 *International and Comparative Law Quarterly*, p 512.

¹⁶⁶ Report of the Conference of the Parties on its Twenty-first Session, held in Paris from 30 November to 13 December 2015(Decision 1/CP.21) available at <https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>

¹⁶⁷ Article 9.5.

provided, further plans to mobilize more funds and “an indication of new and additional resources to be provided” as well as the reasons for that party’s determination that the funds are new and additional.¹⁶⁸ Similarly, Article 9.7 requires developed states to provide biennial information on support provided and mobilized through public interventions. At COP-24, Parties agreed that the information under this Article should include aspects such as the amount of funds provided per year, the type of intervention made, the targeted sector and the amount used to mobilize support.

Importantly, unlike the UNFCCC and Kyoto where the provision of finances was solely the obligation of developed states, the Paris Agreement expands the donor pool.¹⁶⁹ Wealthy developing states may provide assistance to other developing states as implied by Article 9.2 which permits “other parties” to voluntarily provide finance. These voluntary developing-country donors are not mandated to provide communication on their provision of finances as developed states are.¹⁷⁰

4.1.2.3 Capacity Building

Capacity building in the Paris Agreement occupies a more visible role than it did under the UNFCCC. It is given a stand-alone article (11) as opposed to previously when it only appeared in the context of technology transfer and climate research and development.¹⁷¹ The purpose of capacity building according to the Paris Agreement is to enhance the ability and capacity of developing states to undertake mitigation and adaptation measures. The range of targeted areas include technology development, access to finance, communication of

¹⁶⁸ Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (Decision 1/CP.24) available at https://unfccc.int/sites/default/files/resource/cp24_auv_1cp24_final.pdf

¹⁶⁹ Jorge Gastelumendi and Inka Gnittke, “Climate Finance (Article 9)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 244.

¹⁷⁰ Article 9.5 provides that just as ‘other parties’ may provide finances voluntarily, the making of biennial communication is also voluntary.

¹⁷¹ UNFCCC Article 5.5, Article 5.c and Article 9.2.d.

information, and education, training and public awareness.¹⁷² The Paris Decision complemented Article 11 by establishing a Committee on Capacity Building (CCB) as a facilitative institution.¹⁷³

More relevantly, unlike in the UNFCCC and the Kyoto Protocol where only developed states were required to assist developing states in capacity building, the Paris Agreement places this obligation on *all* parties. While it identifies the beneficiaries to be developing states, it does not specify the providers of capacity building. Both developed and developing states are expected to provide capacity building assistance to the ones that need it most with the Agreement explicitly mentioning LDCs and SIDS. ‘All’ states are required to cooperate to enhance capacity building and developed states are urged to increase support for this endeavour.¹⁷⁴ Furthermore, all states that have contributed to capacity building in developing states are required to make regular communications on their efforts.¹⁷⁵ In this sense, the Paris Agreement once again departs from the bifurcated form of differentiation with unitary obligations for specific category of parties based on Annexes that was prevalent in the UNFCCC and the Kyoto Protocol.¹⁷⁶

4.1.2.4 Transparency

The bottom-up aspect of the Paris Agreement – through NDCs – is complemented by a top-down system of international assessment. Transparency comes in as a mechanism to track individual country actions to ensure that they meet the global collective goals agreed at Paris. As such, the Paris Agreement contains a transparency system that is more robust than the UNFCCC’s and Kyoto’s. In particular, the Agreement’s transparency framework is different

¹⁷² Article 11.1.

¹⁷³ Report of the Conference of the Parties on its Twenty-first Session held in Paris from 30 November to 13 December 2015(Decision 1/CP.21) para 71.

¹⁷⁴ Article 11.3.

¹⁷⁵ Article 11.4

¹⁷⁶ Crispin d’Auvergne and Matti Nummelin, “Capacity-building (Article 11)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 284.

from earlier ones in two respects. First, it covers not only mitigation but also includes adaptation and support provided.¹⁷⁷ Second, and more relevant to this section, the transparency commitments under the Paris Agreement apply to all parties,¹⁷⁸ both developed and developing states – but with flexibility to those who need it.¹⁷⁹

Article 13.7 requires each party (‘shall’) to regularly provide information on mitigation actions as well information that shows the progress that has been made in implementing its NDCs. Article 13.8 requires (but uses the less prescriptive word ‘should’) each party to provide information on adaptation efforts. The transparency requirements on mitigation and adaptation are uniform for both developed and developed states. Notably, with relation to support, the obligations are differentiated based on support given and support received. Article 13.9 mandates developed states and “other parties” that have provided financial, technological, and capacity building support to provide information on the same. In a similar vein, developing states are required to provide information on the support that has been received.¹⁸⁰

The transparency mechanism under the Paris Agreement is intended to foster mutual trust and confidence among the parties. It is designed to showcase domestic efforts made by states in implementing their NDCs and discouraging the problem of free-riding. It requires not only sound monitoring and measurement of progress, but also assessment and verification of information that has been provided by states. As such, the Paris Agreement provides that information provided by both developed and developing states “shall undergo a technical expert review”.¹⁸¹ Nonetheless, developing states are granted some flexibility with regards to

¹⁷⁷ Yamide Dagnet and Kelly Levin, “Transparency (Article 13)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 306.

¹⁷⁸ The Cancun Agreements had established reporting and review mechanisms for both developed and developing parties but differentiated them in terms of stringency. The former were to be subjected to ‘International Assessment and Review’ while the latter’s system was ‘International Consultations and Analysis.’

¹⁷⁹ Article 13.

¹⁸⁰ Article 13.10.

¹⁸¹ Article 13.11.

this process. Article 13.11 provides that the technical expert review process needs to include assistance to identify capacity building needs for developing states “that need it in the light of their capacities.” Article 13.12 goes further to require the review process to specifically consider “the respective national capabilities and circumstances of developing states.”

At COP-24 in Katowice, parties agreed to a set of transparency rules that filled in some of the intricate details that had not been spelt out in the Paris Agreement. The “modalities, procedures and guidelines” (MPGs) for transparency under the Paris Rulebook are uniform for all parties although flexibility for developing states who need it is recognized. The Paris Rulebook, however, requires those developing states that take advantage of the flexibility allowance to show the provision to which flexibility is applied, clarify capacity limitations, and give indications on when the limitations will be addressed.¹⁸² Furthermore, the Rulebook restricts the provision to which flexibility is allowed. It does not apply across the board but only to aspects such as the scope, frequency and level of detail of reporting and the technical expert review format.¹⁸³ It is also noteworthy that taking from Article 13.14 which called for support to developing states in order to meet their transparency obligations, the Rulebook tasked GEF with building transparency-related capacities of developing states and providing funds for their preparation of biennial transparency reports (BTRs).¹⁸⁴

4.1.2.5 Adaptation

Adaptation as a pillar of differentiation is unique because it is in the interest of all states, both developed and developing to build resilience against the effects of climate change. The Paris Agreement did not have to establish differentiated commitments as it was expected that each party would undertake adaptation measures for its own benefit. Accordingly, it requires each

¹⁸² Anju Sharma et al., “COP 24: Key Outcomes,” *European Capacity Building Initiative* (2019), p 11.

¹⁸³ Ibid.

¹⁸⁴ Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (Decision 1/CP.24).

party to engage in adaptation planning processes and the implementation of actions, and to submit adaptation communication. Differentiation in the context of adaptation is only manifested in provisions that call for support. Article 7 recognizes the importance of adaptation with a particular focus on developing states “that are particularly vulnerable to the adverse effects of climate change”.¹⁸⁵ Article 7.3 further calls for the recognition of adaptation efforts of developing states and Article 7.13 provides for “continuous and enhanced international support” to developing states in undertaking adaptation and making adaptation-related communications.

4.2 IMPACT OF SELF-DIFFERENTIATION AND POTENTIAL IMPLICATIONS ON THE EFFECTIVENESS OF THE CLIMATE REGIME

The evolution of differentiation from bifurcation in the UNFCCC and the Kyoto Protocol to self-differentiation in the Paris Agreement has resulted in two major positive outcomes. First, it has managed to bring all major emitters under one international climate regime thus laying the foundation for its success. Second, the level of flexibility offered by the Paris Agreement has made climate change response part of national climate policy thus spurring a wide range of domestic actions in both developed and developing states. Nonetheless, the present form of CBDRRC also carries certain risks that may lead to ineffectiveness of the regime. The currently submitted NDCs have been shown to be inadequate in meeting the Paris temperature goal.¹⁸⁶ Self-differentiation has also contributed to the Paris Agreement’s weak enforcement mechanism which relies on public ‘naming and shaming’ rather than legal coercion.¹⁸⁷

¹⁸⁵ Article 7.2.

¹⁸⁶ United Nations Environment Programme, *Emissions Gap Report 2018*, (UNEP 2018).

¹⁸⁷ Robert Falkner, “The Paris Agreement and the New Logic of International Climate Politics,” *International Affairs* 95 (2016), p 22.

4.2.1 Positive Effects of Self-Differentiation in the Paris Agreement

4.2.1.1 Universal Coverage

The greatest achievement of the Paris Agreement was its acceptance by all major emitters. For the first time, the USA, China, the EU, India, Russia, Japan and Brazil among other large emitters were covered by the same climate regime.¹⁸⁸ The acceptance of the Paris Agreement was mainly due to its unique architecture and a novel application of the CBDRRC principle. It managed to do this by doing away with annex-based bifurcation while still retaining elements of differentiation. In the run up to COP-21, developed states had made it clear that they were not willing to accept bifurcation along UNFCCC annexes. Starting from Copenhagen in 2009, the foundation was laid for a unitary climate regime. Indeed, the aversion that developed states had towards bifurcation along developed-developing states categorization is manifested by the fact that Kyoto's second commitment period only covers 15% of total emissions.¹⁸⁹ These concerns were influenced by growing GHGs emissions from states that had been considered 'developing' when the UNFCCC and Kyoto were negotiated including China, India and Brazil.

On the other hand, developing states have always resisted uniform obligations arguing that developed states are responsible for historic GHGs concentrations and still account for most of current *per capita* emissions. They maintain that in order to meet their development needs, they cannot be subjected to the same standards as developed states. In fact, the failure of COP-15 to secure a binding legal outcome in Copenhagen was attributed to serious disagreements between developed and developing states on the issue of differentiation.

¹⁸⁸ President Trump has since communicated an intention to withdraw the USA from the Paris Agreement. However, the earliest such a withdrawal will take effect is from 2020 and the decision may be reversed depending on the outcome of the 2020 US Elections. In any case, the share of US GHGs emissions has shrunk in recent years (13%) meaning that while its departure will be a blow to international climate change cooperation, it will not have the effect of crippling it as more than 80% of emissions will still be covered.

¹⁸⁹ Robert Falkner, "The Paris Agreement and the New Logic of International Climate Politics," *International Affairs* 95 (2016), p 20.

Developed states wanted a binding treaty that applied to all parties while developing states wanted to retain the preferential treatment offered by CBDRRC.¹⁹⁰

In eradicating annexes, the climate regime risked being rejected by developing states while retaining them carried the risk of its rejection by developed states. This impasse was resolved through a system that was unitary but still contained sufficient elements of differentiation. The Paris Agreement offered the perfect solution through self-differentiation. Most of its core provisions apply to all parties. Both developed and developing states are required to undertake mitigation and adaptation measures as reflected in their NDCs. They are also subjected to similar transparency and review mechanisms. The uniformity of these obligations gives the impression that every state is making a meaningful contribution to climate change action.

Nonetheless, there is still differentiation in particular aspects such as finance, capacity building and technology transfer with developed states required to assist developing ones. These elements of differentiation recognize inherent differences among states that impact their ability to respond to climate change. The Paris Agreement, therefore, avoids accusations of unfairness in that all states carry similar core obligations while still allowing particular states the room to manoeuvre in meeting their obligations and also requiring support for states that have the least ability to respond to climate change.

4.2.1.2 Enhanced Domestic Climate Action

As opposed to annex-based differentiation where emission limitation targets were negotiated internationally, the Paris Agreement employs self-differentiation in that states self-select their targets through NDCs. It recognizes that climate change affects almost every sector of a country's domestic policies including agriculture, transportation, manufacturing, urban

¹⁹⁰ Daniel Bodansky, "The Copenhagen Climate Change Conference: A Post-Mortem," *American Journal of International Law* 104 (2010), p 4-10.

planning and energy, among others and that states have different priorities, interests and capabilities. As such, it enables them to decide the nature of their contributions and to align them with their domestic policies. It also appreciates that binding international targets such as those in the Kyoto Protocol might hinder ambition as many states would choose lower targets “out of fear of the consequences of coming up short”.¹⁹¹

The flexibility offered by NDCs thus makes climate change response part of national climate policy which has the potential to spur a wide range of domestic actions.¹⁹² Because states no longer feel backed into a corner, they have the freedom to meet their targets and contribute to global climate change response in ways which are compatible with their national policies. China, for example, has enhanced its domestic policies and aligned them with climate change mitigation. Motivated by domestic concerns about air quality and the need to diversify energy sources, it has turned its focus to renewable energy. In the last ten years, its renewable energy use has risen from a negligible amount to more than 25%.¹⁹³ Furthermore, China has become the largest investor in renewable energy with US\$126 billion. This figure is significantly higher than the next two investors with the EU and the US investing US\$40.9 billion and US\$40.5 billion respectively.¹⁹⁴ The massive investment in renewables by China has led to lower renewable energy costs. The affordability of renewable energy technology has in turn contributed to deeper GHGs cuts in other states as they also turn to renewable energy.¹⁹⁵

¹⁹¹ Todd Stern, ‘The Paris Agreement and Its Future,’ *Brookings Institution* (2018), p 8.

¹⁹² Daniel Bodansky, “The Paris Agreement: A New Hope?” *American Journal of International Law* (2016), p 42.

¹⁹³ Anthony H. F. Li, “Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change,” *China Perspectives* (2016), p 52.

¹⁹⁴ UNEP, Frankfurt School-UNEP Centre and BNEF, *Global trends in renewable energy investment 2018*, (Frankfurt School-UNEP Centre/BNEF 2018), p 22.

¹⁹⁵ Anthony H. F. Li, “Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change,” *China Perspectives* (2016), p 52.

4.2.2 The Underbelly of Self-differentiation

4.2.2.1 Inadequacy of NDCs

Ironically, the main strength of the Paris Agreement is also its greatest drawback. Although self-differentiation has managed to promote almost universal acceptance, this has come at the expense of stronger commitments. In a bid to avoid clear differentiation, the Paris Agreement failed to adequately pressure both developed and developing states into carrying their fair share of the burden. Its emphasis on NDCs has watered down substantive obligations and hindered ambition in climate action. It has been argued that an effective climate change law regime must have three elements: stringent commitments, wide participation and high compliance.¹⁹⁶ All three must work together for optimum results as weaknesses along any of them will compromise the system. Stringent commitments, such as in Kyoto Protocol, would promote effectiveness all factors being equal. However, the challenge is that such stringent commitments often lead to lower participation.

Conversely, weaker commitments may promote participation and compliance but do not necessarily lead to environmental effectiveness. This is because the high participation is often secured at the expense of strong substantive requirements. The Paris Agreement exemplifies the latter scenario where in order to bring both developed and developing states under the same regime, substantive, legally enforceable obligations of result were excluded. Bottom-up elements of the Paris Agreement do not solve the free-rider problem. As the NDCs are self-differentiated, there is a risk of a race to the bottom whereby too much flexibility allows states to lower their ambition.¹⁹⁷

Indeed, current NDCs pledged by all states are well short of what science says is necessary to “prevent dangerous anthropogenic interference with the climate system.” Even if current

¹⁹⁶ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 13.

¹⁹⁷ *Ibid*, p 14.

NDCs were met, the earth is still expected to warm by 3°C by 2100 compared to pre-industrial levels.¹⁹⁸ Failure to abide by the NDCs would lead to a warming of over 4.8°C. Indeed, if the 1.5°C goal is to be achieved, the ‘2018 Emissions Gap Report’ shows that current levels of ambition must be increased five-fold. For the 2°C goal, it must be tripled. Moreover, it provides that the emissions gap must be closed by 2030, failure to which the 2°C goal may be out of reach.¹⁹⁹

Notably, the Paris Agreement did not include the scope and content of NDCs including their features and time frames, the information to be included in communications, and accounting for progress towards their achievement. While it required states to provide “information necessary for clarity, transparency, and understanding” in making communications, it did not give the exact information that should be provided. These details were left for elaboration in the Paris Rulebook. However, at COP-24 in Katowice, parties could not agree on common features of NDCs which is proof of states’ unwillingness to be held to account. This issue was deferred to 2024.²⁰⁰

4.2.2.2 Weak Implementation Mechanism

The obligations related to the preparation and communication of NDCs are *obligations of conduct* rather than *obligations of result*.²⁰¹ While states have the legal obligation to prepare and communicate NDCs, they do not have the legal obligation to implement them. The EU and AOSIS had supported stronger substantive obligations by requiring pledged NDCs to be achieved. Other states, however, led by the US and most developing states argued that such a

¹⁹⁸ United Nations Environment Programme, *Emissions Gap Report 2018*, (UNEP 2018), p 16-22.

¹⁹⁹ Ibid.

²⁰⁰ Anju Sharma et al., “COP 24: Key Outcomes,” *European Capacity Building Initiative* (2019), p 3.

²⁰¹ Margaretha Wewerinke-Singh and Curtis Doebbler, “The Paris Agreement: Some Critical Reflections on Process and Substance,” *University of New South Wales Law Journal* 39 (2016), p 1503.

move would discourage participation and ambition. Instead, they called for a stronger transparency mechanism.²⁰²

The Paris Agreement reflected the USA view with Article 4.2 expressing an expectation that states will implement or achieve their NDCs without actually requiring them to. It was hoped that a robust transparency mechanism would be a sufficient catalyst for compliance. Admittedly, Article 13 contains strong provisions on transparency. It requires states to provide information on progress made in the implementation of the Agreement. The transparency provisions are complemented by Article 15 which establishes a compliance committee. However, the Paris Agreement adds that this committee should function in a “non-adversarial and non-punitive manner”.²⁰³

At COP-24 in Katowice, the Committee was operationalized, and its modalities and procedures set out. As in Paris, its ability to enforce parties’ commitments was curtailed in 3 ways. First, it does not have the power to consider the content of a parties’ NDCs: it is simply restricted to their preparation and communication (obligations of conduct). Second, even in cases of “significant and persistent inconsistencies” in information provided, the Committee requires the consent of the concerned state before examining any facts or issuing recommendations. Third, while it is allowed to notify the CMA²⁰⁴ of any systemic issues faced by parties, it is prohibited from singling out any specific state. It also does not have the power to impose any penalties or sanctions.

The Paris Agreement thus envisages that peer pressure will be enough motivation for states to achieve their NDCs. It presumes that states will not want to be cast in bad light if their reports show that they failed to implement their commitments. In this sense, it relies on public

²⁰² Daniel Bodansky, “The Paris Agreement: A New Hope?” *American Journal of International Law* (2016), p 35.

²⁰³ Article 15.2.

²⁰⁴ Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

‘naming and shaming’ rather than legal coercion. However, the assumption that international embarrassment will be enough to motivate states to undertake domestic measures overestimates the extent to which states are sensitive to international opprobrium and reputational loss and is not supported by previous state practice.²⁰⁵

History shows that states are willing to risk being internationally ‘named and shamed’ when its domestic interests clash with global concerns. Domestic political realities always override international concerns. Climate change requires states to undertake immediate, and often costly measures to solve a long-term and in some cases, uncertain threat.²⁰⁶ Except a few states which are already feeling its effects (such as small low-lying islands) most states are not eager to dedicate resources to climate change when there are more immediate concerns such as poverty eradication, economic development, energy access and affordable transportation.²⁰⁷ The rejection of the Kyoto Protocol by the USA and Canada’s refusal to implement its commitments provide evidence of the ineffectiveness of the public naming and shaming mechanism.²⁰⁸

4.3 CONCLUSION

The Paris Agreement managed to address most of the design defects in the UNFCCC and the Kyoto Protocol. It rectified the perception of unfairness that had bedevilled the climate regime by covering all major emitters, both developed and developing. It modified the application of CBDRRC from annex-based bifurcation to self-differentiation. This modification allowed states to self-select their targets and implement them as part of national climate policy. The Paris Agreement was also attractive, particularly for developing states

²⁰⁵ Ibid.

²⁰⁶ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 4.

²⁰⁷ Ibid.

²⁰⁸ Sharaban Tahura Zaman, “The ‘Bottom-Up Pledge and Review’ Approach of Nationally Determined Contributions (NDCs) in the Paris Agreement: A Historical Breakthrough or a setback in new climate governance?” *IALS Student Law Review* 5 (2018), p 19.

because it retained aspects of differentiation in the provision of financial, technological and capacity building assistance. However, these achievements appeared to have been secured at the expense of ambition and more stringent implementation. Current NDCs are inadequate to meet the Paris temperature goals and there is no mechanism to compel states to implement their commitments.

CHAPTER 5

RESEARCH FINDINGS AND RECOMMENDATIONS

5.1 RESEARCH FINDINGS

The principle of Common But Differentiated Responsibilities and Respective Capabilities (CBDRRC) has been the cornerstone of the international climate change law regime by bringing together differently situated states to address global environmental challenges. It seeks to deal with common concerns without ignoring inherent differences among states. On the one hand, there existed industrialized states, majority of which had derived the most benefits from the earth's resources. This group was eager to act when presented with proof of the destructive effects of their activities on the earth. They called for a collective effort to rectify the situation.

On the other hand, there existed non-industrialized states, most of which were in the Global-South. For most of them, their priority was undertaking measures that would alleviate poverty and move them towards economic and social development. As this required exploitation of resources, they were not as eager to limit their actions simply because an environmental ethic was required. According to this group of states, developing states could not 'kick away the ladder' after using it to climb up. Just as they had attained their 'developed' status and improved the welfare of their citizens by utilizing the earth and its resources, developing states maintained that they too had the same right.

The gap between these two groups of states was bridged by two main mechanisms. First, states recognized the principle of sustainable development. This principle established that socio-economic development and environmental integrity were not mutually exclusive. That it was possible for states to develop and transform their economies without destroying the environment. This sentiment was captured by the Rio Declaration which considered

“environmental protection to be an integral part of the development process”²⁰⁹ and stated that although human beings were “at the centre of concerns for sustainable development,” this had to happen “in harmony with nature”.²¹⁰

The second mechanism through which the international community was encouraged to collectively act was the ingenious principle of CBDRRC. This principle denotes two distinct but related ideas. The first is that due to the global nature of most environmental challenges, all states have a common responsibility to act. However, because some states are more culpable than others for environmental degradation and have more (financial and technological) resources, it is inappropriate for all states to carry similar obligations: the responsibility had to be differentiated.

Accordingly, CBDRRC identifies two bases of differentiation - *culpability* for environmental damage and *ability* to take up remedial measures (through superior technology and greater wealth). These two bases of differentiation (culpability and ability) have, nonetheless, been subject to much debate. States have disagreed on which among the two should take centre stage in the practical application of CBDRRC. According to developing states, culpability i.e. responsibility for damage should be the primary basis of differentiation while developed ones call for ability as the basis. The former argue that because developed states have been the ones largely responsible for environmental damage including climate change and emission of toxic and hazardous wastes, they ought to carry a heavier burden. Developed states, on their part, maintain that their acceptance of differentiation is not an acknowledgement of international responsibility for previous environmental damage but that it is based on greater wealth and technological ability.

²⁰⁹ Principle 4.

²¹⁰ Principle 1.

States are aware that the culpability/ability distinction is very relevant in the climate change context since it determines the nature and scope of their obligations. A culpability-based form of differentiation imposes a moral duty to act on developed states. It treats all other states as victims and entitles them to preferential treatment regardless of whether they are currently able to support themselves. As such, a culpability-based differentiation would require the USA and European states to carry most obligations as they are the ones largely responsible for historical GHGs emissions. This type of differentiation would ignore the fact some developing states, led by China, have overtaken the USA and European states in total emissions. In contrast, an ability-based form of differentiation would recognize that as more states move from ‘developing’ to ‘developed,’ they ought to be treated differently from others which are still struggling with under-development.

Another relevant distinction in the bases of CDRRC in the climate change context is the extent to which *current* emissions vis a vis *historical* emissions should play a role in determining a state’s obligations. Developed states are largely culpable for the majority of GHGs concentrations. They have disproportionately drawn from the earth’s assimilative capacity and are primarily responsible for the current effects of climate change. As climate change is attributable to historical contributions, many developing states have argued that developed states (which benefited from emissions through industrialization) ought to take full responsibility to address climate change.²¹¹ However, as ‘developing’ states such as China and India overtake many developed states in total emissions, the latter have disputed a historical-responsibility based form of differentiation. Instead, they have argued that current emissions also have to be taken into account as they will undermine efforts to combat climate change. That is, if GHGs are leading to climate change, then all sources of GHGs must be addressed.

²¹¹ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press, 2006), p 74.

As debates on the bases of differentiation continue, it is noteworthy that international environmental law recognizes that all four of them play a relevant role. Principle 7 of the Rio Declaration identifies both culpability and ability as the underlying bases of differentiation. It acknowledges that developed states have put pressures on the global environment and, hence, led to its degradation but at the same time, notes that they command more technological and financial resources.

Current activities have also been deemed to be just as relevant as historical ones. There is a customary law obligation for states to refrain for activities “within their jurisdiction and control that may negatively affect the environment of other states or of areas beyond national control.” This position was first stated in the *Trail Smelter Arbitration* case,²¹² was reflected in Principles 21 and 2 of the Stockholm Declaration and the Rio Declaration, respectively and has since been confirmed by the ICJ in *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*.²¹³ Indeed, the principle of inter-generational equity cannot allow current emissions to be excused simply because climate change has been caused by historical activities since continuing emissions will amplify the risks to be faced by future generations.

CBDRRRC in international climate change law has evolved as manifested in the three major instruments: UNFCCC (1992), Kyoto Protocol (1997) and Paris Agreement (2015). The first two exhibited bifurcated differentiation where developed states had different (and more) obligations from developing ones. States were distinguished through Annexes with UNFCCC having Annex I parties (developed states plus those with economies in transition), Annex II parties (developed states) and non-Annex parties (developing states). These Annexes were retained in the Kyoto Protocol. States that were listed in one annex carried all obligations laid out for that group of states.

²¹²*Trail Smelter Arbitration* (United States v. Canada), Arbitral Trib., 3 U.N. Rep. Int'l Arb. Awards 1905 (1941).

²¹³ *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, 187 ICJ Reports (1996) 226, para 29.

The UNFCCC required developed states to “adopt national policies and measures to mitigate climate change through limiting GHGs emissions and enhancing GHGs sinks”; and periodically communicate the measures that have been undertaken including calculation of emissions in order to “return individually or jointly to their 1990 levels by 2000.” The Kyoto Protocol replicated the annex-based mode of differentiation. While it affirmed the general obligations for all parties that had been provided in the UNFCCC, it created specific obligations that applied exclusively to developed states (Annex B/I).²¹⁴ Article 3 lays out their main obligation as ensuring that their overall emissions are reduced either “individually or jointly by at least 5% below 1990 levels” in the 2008-2012 commitment period.²¹⁵ Through the Protocol, developed states also accepted individual emission reduction targets based on their previous emission levels. They were tasked with putting up national GHGs inventory systems to record emissions and removals by sinks and making communications with detailed information on their climate change mitigation policies and actions. This information is then subsequently reviewed by expert review teams. Notably, these obligations did not apply to developing states unless they formed part of the general obligations under Article 4.1 of UNFCCC.

Differentiation between developed and developing states was also manifested in the UNFCCC and the Kyoto Protocol through different implementation obligations. While the UNFCCC requires developed states to submit their initial reports within 6 months, developing states have up to 3 years to do this and LDCs may choose not to. The UNFCCC also imposes more obligations on developed states with regards to national communications. While both developed and developing parties are required to make national communications on their emissions and removals, the former are to go further and include a detailed

²¹⁴ Annex B parties in Kyoto Protocol are the same parties in Annex I of UNFCCC (hence their categorization as ‘Annex B/I’) in this paper.

²¹⁵ Article 3.1.

description of measures and policies that have been put in place to implement their specific commitments. They should also provide an estimate of the effect that these measures and policies are having on reducing emissions and enhancing GHGs sinks.

Further instances of differentiation in implementation within the UNFCCC and the Kyoto Protocol include the permission for states with economies in transition (CEITs) to adopt a different base year other than 1990 in the implementation of its obligations. Furthermore, the Kyoto Protocol establishes a compliance procedure for developed states that is different from the one that applies to developing ones. The compliance committee is made up of two branches: the enforcement branch and the facilitative branch.²¹⁶ The latter applies to both developed and developing states while the former applies only to developed states. The effect of these two branches is that developing states are only ‘facilitated’ to meet their commitments (e.g. through financial and technological assistance) while developed states may be penalized for non-compliance²¹⁷ including subtracted tons from the state’s emission target in the next commitment period.²¹⁸

The final instance of differentiation between developed and developing states within the UNFCCC and the Kyoto Protocol is on assistance. They both require developed states to provide finances and technology to developing ones. The assistance is in preparing their national GHG inventories and reports, as well as adaptation. To this end, the UNFCCC created a financial mechanism and designated the Global Environment Facility (GEF) as the operating entity on an interim basis.²¹⁹ Climate finance was later enhanced by the creation of

²¹⁶ UNFCCC, Decision 27/CMP.1 (2006).

²¹⁷ Geir Ulfstein and Jacob Werksman, ‘The Kyoto Compliance System: Towards Hard Enforcement’, in *Implementing the Climate Regime* (Olav Schram Stokke et al. eds., 2005), p 54.

²¹⁸ *Ibid* p 55-58.

²¹⁹ Article 21.3.

three other funds by the Marrakesh Accords which included the Special Climate Change Fund, the Adaptation Fund and the Least Developed States Fund.²²⁰

An analysis on the impact of differentiation on the effectiveness of the UNFCCC and the Kyoto climate regime reveals that it delivered mixed results. On the positive side, CDRRC brought together states with different social, economic, geographic and historical contexts to address a global challenge. These are states which would have otherwise not cooperated to address climate change. CDRRC also contributed to the development of several flexibility mechanisms that promoted climate action in both developed and developing states. These included Joint Implementation, the Clean Development Mechanism, Emissions Trading, and the creation of ‘bubbles.’ Through these mechanisms, all Annex I/B parties (excluding the USA which refused to ratify the Protocol and Canada which pulled out) fulfilled their commitments. Indeed, majority of Annex I/B states had lower emissions than they had committed to reduce under the Protocol. Moreover, CDRRC facilitated assistance in terms of finances and technology from developed to developing states. Assistance was facilitated through GEF and the three funds under the Kyoto Protocol. A significant role has also been played by public and private climate finance investments although it is noteworthy that the latter have been controversial.

On the negative aspect, however, CDRRC in the UNFCCC and the Kyoto Protocol threatened the stability of the climate regime by failing to include large emitters. When these instruments were negotiated in the 1990s, developed states were ready to accept more obligations since they were the leading GHGs emitters. Consequently, parties were distinguished through Annexes and took up differentiated commitments including quantified emission limitation targets in the Protocol. However, since that period, some ‘developing’ states have overtaken developed states in total emissions. Rapid industrialization of states still

²²⁰ Lavanya Rajamani, *Differential Treatment in International Environmental Law*, (Oxford University Press 2006), p 208.

considered ‘developing’ such as China, India and Brazil has led to higher emissions than most states in Annex I/B. Furthermore, several ‘developing’ states have grown to have higher per capita income than the poorest ‘developed’ (Annex I/B) states.

As such, it was argued that the differentiation model of UNFCCC and the Kyoto Protocol was unsuitable to current economic and political realities. Indeed, it was because of these concerns that despite a lot of expectations, the 2009 Copenhagen Conference (COP-15) failed to deliver another global climate change agreement. Major emitters such as the USA were not willing to accept commitments if there was no developing-country participation while developing states were against accepting identical obligations as they argued that such a move would hinder their social and economic development. It could thus be argued that although differentiation was the fundamental pillar of the climate regime, it was largely responsible for its non-effectiveness due to different perceptions on its fairness.

It was against the backdrop of disagreements on the application of CBDRRC in changing social, economic and political contexts that the Paris Agreement was negotiated and adopted. Starting from the Copenhagen Accord, states began to slowly chip away at the bifurcated mode of differentiation that had characterized the UNFCCC and the Kyoto Protocol. The Accord called for both developed and developing states to undertake mitigation actions. Developed states would set their own “emission reduction targets” and communicate these to the Secretariat of the UNFCCC. Developing states, on their part, would prepare “nationally appropriate mitigation actions” as part of their climate response. The effect of the Accord was that the Annex-based form of differentiation which only set mitigation obligations on developed states was eroded. In the Accord, both developed and developing states committed to undertake (non-binding) mitigations targets and actions.²²¹ Furthermore, the Accord

²²¹ Lavanya Rajamani, “Differentiation in the Emerging Climate Regime” *Theoretical Inquiries in Law* 14 (2013), p 160.

introduced a system of pledge and review where states would set their own national targets as opposed to the Kyoto system of internationally agreed targets.

In Cancun, Mexico, COP-16 formally adopted most of the proposals under the Copenhagen Accord thus inculcating them within the UNFCCC process. The Cancun Agreements reiterated that the average global temperature increase ought to stay below 2°C above pre-industrial levels. They also formalized the commitments undertaken by Parties under the Accord by laying out the “emission reduction targets” of developed states and the “nationally appropriate mitigation actions” of developing states. Notably, it was in Cancun that for the first time the official UNFCCC process recognized the role of developing states in undertaking concrete mitigation actions by urging them to strive towards a “deviation in emissions relative to business as usual” by 2020.²²²

The period between 2011 and 2015 proved to be very instrumental in creating a new climate regime with a markedly different design. The Durban Mandate was launched at COP-17 and a process to “develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties” was launched. At COP-19 in Warsaw, Poland, Parties were invited called upon to prepare INDCs and the following year in Lima, Peru, Parties made the Lima Call for Climate Action which among other things, elaborated information that should appear within INDCs and urged developed states to mobilize climate finance. In 2015, the process that had been launched by the Durban Mandate and refined in Warsaw and Lima culminated in the Paris Agreement at COP-21. It attracted universal support due to its unique architecture which combined the bottom-up element of NDCs with a robust top-down transparency and review mechanism. It also found a way to maintain the

²²² Report of the Conference of the Parties on its Sixteenth Session, held in Cancun from 29 November to 10 December 2010 available at <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

principle of CDDRRC without replicating the bifurcated system of the UNFCCC and the Kyoto Protocol.²²³

The Paris Agreement embodies a much-changed form of CDDRRC from the one applied in the UNFCCC and the Kyoto Protocol. It moves away from differentiation along the Annex-based developed-developing country lines to *self-differentiation*.²²⁴ It does not create specific categories of parties and its obligations are not tailored to any specific category. Instead, it applies differentiation according to the issue that is being addressed – mitigation, transparency, capacity building, finance and adaptation.²²⁵ Indeed, while it recognizes CDDRRC as a relevant principle, it qualifies it with the phrase, “in light of different national circumstances.”²²⁶

On mitigation, the Paris Agreement offers a unique form of differentiation in that it is neither bifurcated nor unitary.²²⁷ It requires all parties (both developed and developing) to prepare and communicate NDCs. However, it is noteworthy that while developed states are required to undertake “economy-wide absolute emission reduction targets” (EAERTs), developing ones are to “move over time towards economy-wide emission reduction or limitation targets (EERLTs) in the light of different national circumstances”.²²⁸ It is also noteworthy that the developed states are required to lead mitigation efforts. On transparency, the Paris Agreement also disregards bifurcation along developed-developing state lines. Instead, it creates transparency commitments for all parties but gives flexibility to those states that need it.²²⁹

²²³ Todd Stern, ‘The Paris Agreement and Its Future,’ *Brookings Institution* (2018), p7.

²²⁴ Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, (Oxford University Press 2017), p 29.

²²⁵ Lavanya Rajamani, “Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics,” (2016), 65 *International and Comparative Law Quarterly*, p 509.

²²⁶ Preamble paragraph 3, Article 2.2, Article 4.3 and Article 4.19.

²²⁷ Harald Winkler, “Mitigation (Article 4)” in Daniel Klein et al (eds.), *The Paris Agreement on Climate Change: Analysis and Commentary*, (Oxford University Press 2017), p 141.

²²⁸ Article 4.4.

²²⁹ Article 13.

Capacity building is another area where the evolution of CBDRRC is exhibited in the Paris Agreement. Unlike the UNFCCC and the Kyoto where only developed states were required to assist developing states in capacity building, the Paris Agreement places this obligation on all parties. While it identifies the beneficiaries to be developing states, it does not specify the providers of capacity building. Both developed and developing states are expected to provide capacity building assistance to the ones that need it most with the Agreement explicitly mentioning LDCs and SIDS. ‘All’ parties are required to cooperate to enhance capacity building with developed states urged to increase support for this endeavour.

The only area where the differentiation model of the UNFCCC and the Kyoto Protocol was retained is on financial assistance. Developed states have the duty to assist developing ones and bear the primary responsibility of mobilizing climate finance. Developed states also have a duty to biennially provide information on finances provided and mobilized for assistance to developing states. Despite the retention of the previous bifurcated model, however, the Paris Agreement, makes one notable change. It expands the donor pool to include developing states as well. Unlike the UNFCCC and Kyoto where the provision of finances was solely the obligation of developed states, the Paris Agreement permits “other parties” (which may include developing states) to voluntarily provide finance.

This paper has traced the origin of differentiation in international climate change law and noted its evolution as manifested in the Paris Agreement. The application of CBDRRC moved from annex-based bifurcation along developed-developing states to self-differentiation. It has been shown that self-differentiation has resulted in two major positive outcomes. First, it has managed to bring all major emitters under one international climate regime thus laying the foundation for its success. It recognized that eradicating annexes would create the risk of rejection by developing states while retaining them carried the risk of its rejection by developed states. It thus resolved this impasse through a system that was

unitary but still contained sufficient elements of differentiation. Self-differentiation enabled the regime to avoid accusations of unfairness by establishing core obligations for all states but still allowed particular states the flexibility to meet them and also requiring support for states that have the least ability to respond to climate change.

Second, the level of flexibility offered by the Paris Agreement has made climate change response part of national climate policy thus spurring a wide range of domestic actions in both developed and developing states. As states no longer feel backed into a corner, they have the freedom to meet their targets and contribute to global climate change response in ways which are compatible with their national policies.

However, self-differentiation has been shown to have two fundamental weaknesses. In a bid to avoid clear differentiation, the Paris Agreement failed to adequately pressure both developed and developing states into carrying their fair share of the burden. Its emphasis on NDCs has watered down substantive obligations and hindered ambition in climate action. Current pledged NDCs are well short of what science says is necessary “to prevent dangerous anthropogenic interference with the climate system.” It thus appears that the flexibility offered by self-differentiation has initiated a race to the bottom.²³⁰

The second fundamental drawback of self-differentiation is a weak implementation mechanism. There is no mechanism to compel states to implement their commitments since the Paris Agreement creates *obligations of conduct* rather than *obligations of result*. While states have the legal obligation to “prepare and communicate” NDCs, they do not have the legal obligation to implement them. Furthermore, the Compliance Committee is required to function in a “non-adversarial and non-punitive manner” and has its hands tied in several ways. It does not have the power to consider the content of a parties’ NDCs: it is simply restricted to their preparation and communication (obligations of conduct). Second, even in

²³⁰ Ibid, p 14.

cases of “significant and persistent inconsistencies” in information provided, the Committee requires the consent of the concerned state before examining any facts or issuing recommendations. Third, while it is allowed to notify the CMA²³¹ of any systemic issues faced by parties, it is prohibited from singling out any specific state. It also does not have the power to impose any penalties or sanctions.

As a result of these weaknesses, the Paris Agreement is left with a series of commitments whose implementation cannot be ensured. In fact, the commitments are not only inadequate to address climate change, but the Agreement’s enforcement mechanism takes the form of ‘naming and shaming’ which has historically been shown to be ineffective. Previous practice indicates that states are willing to risk being internationally ‘named and shamed’ when its domestic interests clash with global concerns.

5.2 RECOMMENDATIONS

This research has concluded that while differentiation is a fundamental pillar of international climate law, it has also contributed to lower ambition through self-differentiated NDCs which have fallen short of scientifically required measures to achieve the 1.5°C/2°C goal. Accordingly, recommendations under this paper fall under two categories. The first are specific to differentiation and include greater clarity on definition of ‘developed’ and ‘developing’ states (re-classification of parties); enhancement of financial assistance and technology transfer; prompt agreement on the common features of NDCs; and a strengthened role of the compliance committee.

Recognizing that inadequate climate action is the crux of the issues identified by this paper, the second category of recommendations are broader and relate to enhancing ambition in tackling climate change. These include reframing climate change from an environmental challenge to an economic and public health concern and greater engagement from local

²³¹ Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

authorities, multi-nationals and other non-state players in climate action. The recommendations will be based on the understanding that the Paris Agreement does not ‘fix’ the climate problem but rather, offers a supportive framework within which states and other actors can pull together to steer the earth towards a low carbon future and stronger resilience to climate change.

5.2.1 SPECIFIC RECOMMENDATIONS

5.2.1.1 Clarity on State Classification

CBDRRC relies heavily on state classification. The concept of differentiation is in itself indicative that states are differentiated based on a particular category. In the UNFCCC and in the Kyoto Protocol, differentiation was based on Annexes with states distinguished through membership to the Organisation for Economic Co-operation and Development (OECD). Members of the OECD and those deemed to be in transition to a market economy were considered ‘developed’ and hence placed in Annex I of UNFCCC and later replicated in Annex B of the Protocol. All other states were considered ‘developing.’

As highlighted, this categorization has since proven to be unsuitable to current socio-economic and political realities. States previously considered as ‘developing’ and low emitters have grown into major economies with high carbon emissions. Some of them are wealthier than several Annex I/B states and rank favourably in the Human Development Index. For instance, under the UNFCCC and the Kyoto Protocol, Ukraine is an Annex I/B party and is hence required to provide assistance to non-Annex parties such as China, Korea, Mexico Brazil, Iran and South Africa. All these states not only have higher emissions but have a higher GDP per capita than that of Ukraine.²³²

The Paris Agreement recognized the pitfalls of categorizing states into Annexes but rather than finding an appropriate taxonomy for the operationalization of CBDRRC, it opted to

²³² Submission by Australia 2, 5, U.N. Doc. FCCC/KP/AWG/2008/MISC.1/Add.2 (Mar. 20, 2008).

ignore the issue altogether. Although ‘developed’ and ‘developing’ states are repeatedly mentioned, the Paris Agreement provides no definition of these terms. The effect of this is that wealthy states such as China and South Korea, who in addition to having high emissions also have advanced economies, may still argue that they are developing and entitled to financial assistance under the Paris Agreement which requires developed states to assist developing ones.

Accordingly, this paper recommends having a clear classification system for parties with greater clarity on where states fall and the possibility of incremental graduation from one category to another as their wealth and capacities increase. This would avoid the absurdity of some wealthy states evading obligations while only a few developed ones are burdened by climate action. Classification should be based on more than membership to bodies such as the OECD but include the stage of economic development, share of emissions, and capacity to respond. Wealthy states who were considered ‘developing’ states under the UNFCCC and Kyoto Protocol should take up a more active role in climate change mitigation and support genuinely needy states such as LDCs and SIDS.

5.2.1.2 Enhancement of Financial Assistance and Technology Transfer

Assistance for climate action has been one of the most controversial issues in international climate change discussions. Developing states argue that climate finance should be primarily from public sources while developed states maintain that private investments also count. The former also doubt the authenticity and accuracy of figures given by developed states on the amount of funds that have been channelled to climate change efforts saying that these have been exaggerated. This debate aside, it is notable that the level of assistance provided is still far less than what is necessary for the latter to adequately undertake mitigation and adaptation measures. For developing states to take up greater climate action measures, they must be provided with financial and technological assistance.

As the World Bank estimates that developing states will require approximately \$275 billion per year by 2030,²³³ for mitigation and adaptation, the wealthiest developed states in Europe and the United States need to do more than they are currently doing. However, assistance also needs to go beyond the traditional Annex-based differentiation. States which are able to take up measures on their own should not wait for assistance simply because they fell under ‘developing’ state category in the UNFCCC and the Kyoto Protocol. Technologically advanced states such as China, South Korea, Singapore and Israel should also take up an enhanced role in assisting poorer ones with the technology needed for climate adaptation and mitigation.

5.2.1.3 Prompt Agreement on Common NDC Features

NDCs are the bedrock of the current climate regime as established by the Paris Agreement. They are the embodiment of self-differentiation as the content of NDCs is wholly at the discretion of state parties. Current NDCs exhibit wide discrepancies. Some states have put forward economy-wide targets while others are only sectoral. While others give a specific target, other have framed their commitments in broad policy terms. Even among those that have submitted economy-wide targets, they still take a variety of forms with some being absolute emission targets while others are based on business as usual scenarios or on emissions intensity relative to Gross Domestic Product (GDP). Furthermore, the timeframes for the achievement of these NDCs are varied with some states giving the year 2025 while others preferring 2030.

The lack of common features makes it difficult to definitively track progress towards the Paris Agreement temperature goals. It hinders accountability and prevents comparison between states to assess whether each party is pulling their weight to address climate change since there is no common baseline upon which the assessment can be done. As such, the

²³³ World Bank, *World Development Report 2010: Development and Climate Change* (Washington, D.C.: World Bank, 2010).

requirement for states to provide within their NDCs, “information necessary for clarity, transparency and understanding” needs to be backed up by guidance on common features to ensure accountability. Although parties differed this issue to 2024 when they met in 2018 at COP-24 in Katowice, the urgency of the climate change problem requires them to address this issue more promptly.

5.2.1.4 Strengthened Role of the Compliance Committee

As already highlighted, the role of the compliance committee is severely restricted. It cannot consider the content of a parties’ NDCs; it cannot examine any facts or issue recommendations without the consent of the concerned state even in cases of “significant and persistent inconsistencies” in information provided; it is prohibited from singling out any specific state in communications with the CMA; and it cannot impose any penalties or sanctions. These handicaps mean that the Compliance Committee will be largely ineffective in compelling states to implement their NDCs. Admittedly, in some cases, softer, more cooperative, and supportive measures are preferable in international environmental law as opposed to hard enforcement. However, given the serious nature of the risks presented by climate change, the Compliance Committee should be given more powers. As NDCs are self-differentiated and states have the freedom to include measures that they are comfortable with, they should at least be compelled to implement them.

5.2.2 GENERAL RECOMMENDATIONS

5.2.2.1 Reframing the Climate Change Problem

One of the main reasons for low climate ambition is the impact of climate change on a state’s domestic policies including agriculture, transportation, manufacturing, urban planning and energy, among others. As climate change action touches on these sectors, many states are understandably reluctant to overhaul their policies and face the economic risks associated with it. Economic concerns were at the centre of the decision by the USA not to ratify the

Kyoto Protocol and Canada's withdrawal from it. Fears of economic stagnation were also behind the rejection of identical obligations by developing states during the establishment of the climate regime. Indeed, CDRRC was devised in order to assure developing states that environmental protection will not be secured at the expense of their socio-economic development needs.

Presenting climate change as an environmental challenge has been a major hindrance to climate action. Pitting economic concerns against environmental considerations have always meant that the latter loses out. As such, efforts should be focused on reframing the climate problem from an environmental issue to an economic one. The impacts of climate change and the benefits of moving to a low carbon future should be presented in economic terms. It is estimated that global GDP would fall by 15% if the average temperature rose by 2°C and fall by 25% if it rose by 3°C.²³⁴ The International Labour Organization (ILO) reports that while 6 million jobs may be lost from the Paris Agreement's implementation, 24 million others will be created.²³⁵ Furthermore, in 2017 alone, climate and weather-related hazards are estimated to have caused US\$320 billion in losses.²³⁶ As the frequency and severity of extreme weather events are predicted to increase in future as a result of climate change, economic losses will only go up. Viewed this way, climate action ceases from being seen as a hindrance to being an economic opportunity. Climate change response is thus transformed from a costly exercise to one that will not only reduce losses but also open up numerous avenues for economic prosperity.

In addition to framing climate change as an economic problem, ambition may also be enhanced if it is presented as a serious human health concern. Climate change is expected to

²³⁴ Marshall Burke, W. Matthew Davis & Noah S. Diffenbaugh, "Large Potential Reduction in Economic Damages under UN Mitigation Targets," 557 *Nature* p549–553 (2018).

²³⁵ International Labour Organization, *World Employment and Social Outlook 2018*, (Geneva: ILO 2018), p 37.

²³⁶ Global Commission on the Economy and Climate, *Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times* (Washington DC: 2018).

cause heat-related illnesses from heatwaves; increased prevalence of diseases such as malaria, dengue fever, rift valley fever, lyme disease and chikungunya as disease vectors change due to warming; and more cases of asthma and other cardio-vascular diseases from air pollution.²³⁷ Flooding in some parts and water shortages in others will also have an impact on water quality and quantity leading to the prevalence of water-borne diseases. Moreover, some regions are projected to face a substantial reduction in wheat, rice, and maize yield while fish produce will also reduce as climate change causes marine biodiversity reduction and species redistribution.²³⁸ Food insecurity as a result climate change will present a serious public health concern in the form of malnutrition, starvation and even death.

States which are not motivated to act now because they view climate change as a remote environmental threat may be pushed into action if the problem is presented as an urgent economic and public health challenge. Citizens are also more likely to push their governments to increase ambition if they consider climate change to be a real and imminent threat to their economic as well as physical, mental and social well-being.

5.2.2.2 Greater Involvement of Non-state Actors

While states are the primary subjects of international law, the role of non-state actors in climate change discourse cannot be overstated. These actors, including cities, businesses, subnational governments, civil societies and financial institutions are often in positions of direct influence. For instance, it is estimated that cities contribute to two-thirds of all GHGs emissions due to their control over planning, infrastructure, transport and energy while 71% of global emissions from 1988 to 2015 were from only 100 companies.²³⁹

²³⁷ Centers for Disease Control and Prevention, *Climate Change Impacts in the United States: The Third National Climate Assessment* (CDC 2014).

²³⁸ ²³⁸ United Nations Framework Convention on Climate Change Secretariat, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing States*, (UNFCCC 2007).

²³⁹ Paul Griffin, *The Carbon Majors Database: CDP Carbon Majors Report 2017*, (Carbon Disclosure Project, 2017), p 5.

Non-state actors are particularly well suited to bridge the emissions gap and contribute to adaptation due to several reasons. First, they have direct control over activities related to mitigation and adaptation (e.g. cities have power over their transport and energy systems). Second, their decision-making structures may be less complex than that of states, hence easier to implement more ambitious measures. Such acts may then motivate national governments to increase their efforts by seeing that climate action may be done without negative economic impacts. Third, actions by non-state actors enable policy innovations as experimentation is done at the local level. These, if successful, may be scaled up nationally and internationally. Fourth, some non-state actors such as research institutions and multi-nationals are often in possession of financial resources and technology that can be channelled towards climate change action. Lastly, non-state actors have the potential to assist states to meet their commitments and even provide cover when national governments retrogress.²⁴⁰ The USA provides a good example as states, cities and private entities have enhanced climate action in the face of the federal government's retreat from the Paris Agreement commitments.

²⁴⁰ Thomas Hale, *The Role of Sub-state and Nonstate Actors in International Climate Processes*, (Chatham House 2018), p 3-5.

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