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THE PRINCIPLE OF COMMON BUT DIFFERENTIATED RESPONSIBILITIES: SOLVING THE PROBLEM OF CLIMATE CHANGE

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Abstract: The paper discusses how the principle of common but differentiated responsibilities can help in mitigating and remedying the problem of climate change to build a more resilient tomorrow.

"The basic insight of ecology is that all living things exist in interrelated systems; nothing exists in isolation. The world system is web-like; to pluck one strand is to cause all to vibrate; whatever happens to one part has ramifications for all the rest. Our actions are not individual but social; they reverberate throughout the whole ecosystem".[1]

Among the published environmental biologists, those with greater climate-related expertise have more accurately reported observed amounts of climate change. These individuals predicted larger increases in future climate change and larger impacts of climate change, including higher predictions of species extinctions and range shifts.[2] Climate change poses major new challenges to biodiversity conservation. As atmospheric CO2 increases over the next century, it is expected to become the first or second greatest driver of global biodiversity loss. Climate change may have already resulted in several recent species extinctions. Many species ranges have moved poleward and upward in elevation in the last century and will almost certainly continue to do so. Local communities are disaggregating and shifting toward more warm-adapted species. Phenological changes in populations, such as earlier breeding or peak in biomass, are decoupling species interactions. Widespread calls exist for immediate action to adapt conservation practices to ongoing climate change in order to ensure the persistence of many species and related ecosystem services.[3]

[1] A.Fritsch, Science Action Coalition, Environmental Ethics: Choices for Concerned Citizens 3-4 (1980).
[2] Debra Javeline, Jessica J. Hellmann, Rodrigo Castro Cornejo and Gregory Shufeldt, Expert Opinion on Climate Change and Threats to Biodiversity, BioScience, Vol. 63, No. 8 (August 2013) 666-673 (Published by: Oxford University Press on behalf of the American Institute of Biological Sciences) Stable URL: http://www.jstor.org/stable/10.1525/bio.2013.63.8.9.
[3] Nicole E. Heller and Erika S. Zavaleta, Biodiversity management in the face of climate change: A review of 22 years of recommendations Biological Conservation 142 (2009) 14 – 3 2.

The Earth's climate has changed throughout history. Just in the last 650,000 years, there have been seven cycles of glacial advance and retreat, with the abrupt end of the last ice age about 7,000 years ago marking the beginning of the modern climate era — and of human civilization. Most of these climate changes are attributed to very small variations in Earth's orbit that change the amount of solar energy our planet receives. The current warming trend is of particular significance because most of it is extremely likely (greater than 95 percent probability) to be the result of human activity since the mid-20th century and proceeding at a rate that is unprecedented over decades to millennia.[4]

The heat-trapping nature of carbon dioxide and other gases was demonstrated in the mid-19th century. Their ability to affect the transfer of infrared energy through the atmosphere is the scientific basis of many instruments flown by NASA. There is no question that increased levels of greenhouse gases must cause the Earth to warm in response. Ice cores drawn from Greenland, Antarctica, and tropical mountain glaciers show that the Earth's climate responds to changes in greenhouse gas levels. Ancient evidence can also be found in tree rings, ocean sediments, coral reefs, and layers of sedimentary rocks. This ancient, or paleoclimate, evidence reveals that current warming is occurring roughly ten times faster than the average rate of ice-age-recovery warming.[5]

Global sea level rose about 8 inches in the last century. The rate in the last two decades, however, is nearly double that of the last century. The planet's average surface temperature has risen about 2.0 degrees Fahrenheit (1.1 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere. Most of the warming occurred in the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year — from January through September, with the exception of June — were the warmest on record for those respective months. The oceans have absorbed much of this increased heat, with the top 700 meters (about 2,300 feet) of ocean showing warming of 0.302 degrees Fahrenheit since 1969. The Greenland and Antarctic ice sheets have decreased in mass. Data from NASA's Gravity Recovery and Climate Experiment show Greenland lost 150 to 250 cubic kilometers (36 to 60 cubic miles) of ice per year between 2002 and 2006, while Antarctica lost about 152 cubic kilometers (36 cubic miles) of ice between 2002 and 2005. Both the extent and thickness of Arctic sea ice have declined rapidly over the last several decades. Glaciers are retreating almost everywhere around the world — including in the Alps, the Himalayas, the Andes, the Rockies, Alaska, and Africa. Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30 percent. This increase is the result of humans emitting more carbon dioxide into the atmosphere and hence more being absorbed into the oceans. The amount of carbon dioxide absorbed by the upper layer of the oceans is increasing by about 2 billion tons per year. Satellite observations reveal that the amount of spring snow cover in the Northern

[4] Climate Change: How Do We Know? https://climate.nasa.gov/evidence/
[5] Ibid.

Hemisphere has decreased over the past five decades and that the snow is melting earlier.[6] These are some of the evidence of Climate Change.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) created a 2-tier world. It called upon the developed countries to "*take the lead*" in reducing carbon emissions and, under the principle of "*common but differentiated responsibilities*," established no time frame for developing countries to follow. However, a consensus is now emerging in favour of low stabilization targets. These targets cannot be achieved without the participation of developing countries, which today emit about half of the global CO_2 emissions and whose future emissions increase faster than the emissions of industrialized countries under "business as usual" scenarios. On what terms should developing countries participate? There are many proposals, each buttressed by some appeal to "fairness." Per capita allocation is widely acknowledged to represent the only equitable goal in the long term, but intermediate steps are required in the short-to-medium term.[7]

Interpretation fairness, individuals who emit similar amounts of CO_2, regardless of where they live, are expected to contribute to fossil-fuel CO_2 emission reductions. In principle, no country gets a pass because even in the poorest countries, some individuals have CO_2 emissions above the universal emission cap. A well-designed national policy would contain costs and not exacerbate inequalities. Many of the lowest-cost opportunities for CO_2 emission reduction over the next few decades in all countries, especially in developing countries, will be found in the middle of the emission distribution, associated with billions of people of modest means. Many of them will be moving into cities for the first time and, in a responsive economy, would be housed in well-built apartment buildings equipped with efficient appliances and served by efficient mass transit systems.[8]

The evidence trail shows that by 1996 and thereafter, with basically the same science story as laid out in the first IPCC report in 1990, risk messages were being reframed into a hazy scientific debate, particularly about human agency, that confused the public and helped those who blocked action. The narrative that once asked what could be done to slow or reverse the emission of excess greenhouse gases by human societies, i.e. early risk management and global ethical argument, evolved into an inward-focused national interest argument for no change from 'business as usual.[9]

The emergence of a legal concept of common concern of humankind suggests that certain types of environmental decline are matters of community interest. Although the concept of common concern does not imply a specific rule for the conduct of states, it does signal that their freedom of action may be subject

[6] Ibid.
[7] Chakravarty S, Chikkatur A, de Coninck H, Pacala S, Socolow R, Tavoni M. Sharing global CO_2 emission reductions among one billion high emitters. Proceedings of the National Academy of Sciences of the United States of America. 2009;106(29):11884-11888. doi:10.1073/pnas.0905232106.
[8] Ibid.
[9] Jutta Brunnée, International Environmental Law: Rising to the Challenge of Common Concern? Proceedings of the Annual Meeting (American Society of International Law), Vol. 100 (MARCH 29-APRIL 1, 2006), 307-310 Published by: American Society of International Law Stable URL: http://www.jstor.org/stable/25660114.

to limits even where other states' sovereign rights are not affected in the direct transboundary sense envisaged by the harm principle. Such limits flow precisely from the fact that the concept identifies certain types of environmental degradation as of concern to all, which would appear to imply that obligations are owed *erga omnes*. In turn, a closely related concept has emerged that may be said to structure what states owe to one another in the context of common concerns: their participation in problem-solving in accordance with their common-but-differentiated responsibilities (CBDRs) and respective capabilities.[10]

Articles 3 and 4 of the 1992 UN Framework Convention on Climate Change (FCCC) are "*common but differentiated responsibility*". Under this concept, the industrialized, developed states would assume the lead in addressing the climate problem, specifically excluding poorer, developing countries from binding reductions in greenhouse gas emissions. The principle of CBDR is grounded in notions of fairness, guided by the presumption that developed countries are disproportionately responsible for the historical emissions of greenhouse gases and have the greatest capacity to control them. Thus the FCCC makes few demands on countries less responsible and less capable of acting.[11]

Three other points should also be noted. First, it is important to appreciate that the origins of CBDR as a nascent principle of international law can be traced to the concept of the common heritage of mankind. Climate change is a common concern of all humankind, and there is a need for international cooperation to protect human interests. Since the climate is such a crucial common concern, it follows that all governments have a responsibility to protect it. This begs the question of who is responsible for climate pollution, the answer to which lies in each state's historical responsibility for contributing to the problem. Second, the CDR concept finds clear expression in Principle 7 of the 1992 Rio Declaration on Environment and Development, where the assertion is made that "*States have common but differentiated responsibilities.*" Thus, while all states are responsible for global environmental problems like global warming and stratospheric ozone depletion, some states are more responsible than others. In addition, while all states must work together to reduce emissions of greenhouse gases that contribute to global climate change, the developed states must take the lead because they have a greater capacity to act. Third, perhaps the clearest attempt to transform CBDR from a legal concept into a policy instrument is found in the Kyoto Protocol to the Climate Change Convention.[12]

This brings us to this panel and the need to address a number of salient questions about CBDR. For example, is CDR today a form of soft law, a nonbinding norm or has it already emerged as a robust, acknowledged principle of international environmental law? First, the purposes of differentiation can be summarized as follows: (1) to assign a greater obligation to those who have contributed more to a particular environmental problem, e.g., climate change; (2) to assign a greater obligation to those who have more resources or capacity to deal with a particular situation, even if they did not cause that problem; (3) to recognize the special situation of one or more countries and that does not necessarily have to be only

[10] Ibid.
[11] Christopher C. Joyner, Proceedings of the Annual Meeting (American Society of International Law), Vol. 96 (MARCH 13-16, 2002), pp. 358-366 Published by: American Society of International Law Stable URL: http://www.jstor.org/stable/25659806.
[12] Ibid.

developing countries, it can be other countries as well; (4) to recognize that countries may have different priorities and that a particular environmental issue may not be their top priority; and (5) to promote broad participation in an agreement. This is a practical approach. Even though it may be inappropriate or illogical to make a distinction between parties, it is done because more parties may then join the agreement, and then we all will be better off. Commitments also vary. Or commitments may be the same, but the time frame is different. An example is the Montreal Protocol on Ozone. Everybody has the same commitments, but certain developing countries receive a ten-year grace period. Sometimes the commitments of categories of countries are actually different, as with the Kyoto Protocol, where there is no grace period for developing countries- they simply have no commitments to limit greenhouse gas emissions.[13]

According to the 2007 Intergovernmental Panel on Climate Change report, unless global collective action on climate change can be achieved, the major threats posed by a rapidly changing climate are likely to have catastrophic effects on all life on Earth (IPCC 2007). Despite the fact that all major governments have acknowledged the causal role of anthropogenic emissions in producing rapid global warming, little action has yet been taken to reduce such emissions. The best hope for reaching an effective international agreement on climate change is to base it on the widely agreed-upon principle of common but differentiated responsibilities (CBDR).[14]

This principle captures the international consensus that the ongoing responsibility to protect the global commons is to be shared, though not necessarily evenly. In particular, the principle of CBDR notes that developed states bear a greater responsibility to address climate change because of the pressure they have put on the global environment and their financial and technological ability to take action (Rio Declaration on Environment and Development 1992). [15]

The Shared Aspect: The global environment can be viewed as a physical commons in the sense that access to it cannot be prevented, and what happens in one part of the globe may affect the environment in other parts. The high-level ozone layer is a classic example of a global commons. Generally, in order to sustain a robust global environment, we need to cooperate. The global partnership to protect the common concern of humankind forms the first basis of the principle. This aspect also appears in other areas of international law, where differential obligations are tied to the achievement of common norms or, in some cases, goals. Examples are the treatment of developing countries in international trade law as in the Uruguay Round, of non-nuclear and nuclear weapon states in the Nuclear Non-proliferation Treaty, and of individual states

[13] Susan Biniaz, Proceedings of the Annual Meeting (American Society of International Law), Vol. 96 (MARCH 13-16, 2002), pp. 358-366 Published by: American Society of International Law Stable URL: http://www.jstor.org/stable/25659806.
[14] Ibid.
[15] Dan Weijers, David Eng and Ramon Das, Sharing the responsibility of dealing with climate change: Interpreting the principle of common but differentiated responsibilities, Public Policy Book: Why ethics matters Published by: ANU Press. (2010) Stable URL: http://www.jstor.org/stable/j.ctt24h2rv.12

party to the Open Skies Treaty with regard to the number of reconnaissance missions that may be flown over a state's own territory. [16]

The Contextual Aspect: While it would be desirable for all states to implement common obligations, the differences among states, particularly in economic power, make clear why they often cannot. Thus, international agreements have been designed to allow certain states more time to meet international commitments, assist them in implementing their commitments and build their capacity generally to meet common commitments.[17]

The Equity Aspect: There are growing inequities in the international system among countries and within countries. While the world is more prosperous than fifty years ago, the economic differences from country to country are also greater. The United Nations Development Programme reports that the differences in the gross domestic product (GDP) between industrial countries and developing countries have increased dramatically in the past century, especially in the last twenty years. The CBDR principle raises an intergenerational equity issue: the historical contribution of a state to a given problem. The assumption is that commitments to addressing the problem should be related to the degree to which the state contributed to it.[18]

The economist Jerome Rothenberg has articulated a theory of intergenerational equity based on the present generation's gratitude to the past generation for what it has received. The theory posits that a country's obligation toward the future is based on what it received from the past. Those with fewer resources have lighter obligations. In a sense, the CDR principle is the reverse of this: those who have contributed more to the problem have greater obligations to alleviate it. But just as the present generation is not always grateful to the past generation, so the assumption that historical contribution to a problem can be equated with the capacity to remedy it is not necessarily correct.[19]

The Paris Agreement: In December 2015, 196 Parties to the UN Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement, a new legally-binding framework for an internationally coordinated effort to tackle climate change. The Agreement establishes a global warming goal of well below 2°C on the pre-industrial average. It requires countries to formulate progressively more ambitious climate targets which are consistent with this goal. To achieve this goal, all Parties to the Paris Agreement need to make profound changes to their economies.[20]

The Paris Agreement defines a universal, legal framework to *'strengthen the global response to the threat of climate change'* (Art. 2). It establishes the obligation of all Parties to contribute to climate change mitigation and adaptation. For the first time, all countries will develop plans on how to contribute to climate change

[16] Edith Brown Weiss, Common but Differentiated Responsibilities in Perspective, Proceedings of the Annual Meeting (American Society of International Law), Vol. 96 (MARCH 13-16, 2002), pp. 366-368 Published by: American Society of International Law Stable URL: http://www.jstor.org/stable/25659807.
[17] Ibid.
[18] Ibid.
[19] Ibid.
[20] United Nations Convention on Climate Chamge, https://unfccc.int/2860.php.

mitigation and will communicate their 'nationally determined contributions' to the Secretariat of the Convention. The Paris Agreement puts emphasis on processes rather than on defined mitigation goals. Unlike the Kyoto Protocol, the Paris Agreement does not formulate country-specific emissions targets. Instead, the Paris Agreement depends on voluntary mitigation contributions and a series of processes that seek to ensure collective and individual progress in meeting the initial and progressively more ambitious mitigation contributions. [21]

The Paris Agreement recognizes the different starting points and responsibilities of countries and emphasizes that the Agreement will be implemented in accordance with the 'principle of common but differentiated responsibilities and respective capabilities', which applies *'in the light of different national circumstances* (Art.2.2). This means that developed countries have to continue to take the lead in mitigating climate change and support the actions taken by developing countries.[22]

Thus, the principle of "common but differentiated responsibilities" throws light onto the path that leads to different measures the different States need to take worldwide in order to achieve the common goal of limiting and delaying Climate Change and moving towards a better future for all.

[21]TheParisAgreementSummary, http://www.climatefocus.com/sites/default/files/20151228%20COP%2021%20briefing%20FIN.pdf.
[22] Ibid.