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ABSTRACT

This article discusses human rights implications of the market-based mechanisms operationalized under the global climate change regime. It examines greenhouse gas emissions rights created by the Kyoto Protocol and continued by the Paris Agreement. This article discusses implications of these rights for the protection and realization of human rights in the wake of climate change and argues that greenhouse gas emissions rights, as currently constituted, are incompatible with human rights protections. While the Paris Agreement's recognition of human rights is a significant development, the protection and realization of human rights by states under a free-market approach to climate change remains a challenge. This article calls for allocation of carbon investment rights for developing countries as a means of promoting the climate justice platform identified by human rights proponents, and reducing the economic gulf between developed and developing countries.

INTRODUCTION

Climate change is the most pressing environmental issue of the 21st century.¹ The problem has arisen from exploitation of Earth's carbon-based resources such as oil, coal and natural gas, which produce more than two-thirds of the global greenhouse gas emissions that are fueling climate change.² These gases accumulate in the stratosphere and re-radiate heat rising from Earth back to the planet, causing an enhanced greenhouse effect, also known as global warming. This warming is precipitating more frequent extreme and unpredictable weather events,

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1. See DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 6 (5th ed. 2015).

2. See Press Release, Secretariat of the United Nations Framework Convention on Climate Change, UNFCCC Exec. Sec'y: Worst Effects of Climate Change Can Be Staved Off if Appropriate International Action to Mitigate Is Speedily Taken 1 (May 4, 2007), https://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/20070503_ipcc_wgiii_press_release_berlin.pdf.

such as typhoons, floods, droughts, heat waves, wild fires, ice melts and rising sea levels.³ Earth's climate is changing.

Climate change is bringing new socio-economic vulnerabilities into human lives and livelihoods, which are being felt in agricultural production, human health, access to potable water and threats to habitats of coastal communities, to name a few.⁴ In the agricultural arena, for example, unpredictable rainfall patterns are destabilizing planting and harvesting seasons.⁵ In human health, the spread of deadly diseases like malaria and dengue fever into new areas is an emerging threat.⁶ Floods and droughts are restricting communities' access to sufficient, reliable potable water. Rising sea levels especially imperil coastal and island communities, threatening to engulf homes and, in cases like Tuvalu's,⁷ entire island states, portending a climate refugee crisis. It is now understood that intensive carbon-based industrialization is unsustainable.⁸

Rajendra Pachauri, chairman of the Intergovernmental Panel on Climate Change (IPCC) during the preparation of its Fifth Assessment Report, notes that while all societies stand to suffer some negative impacts of climate change, "there is an equity issue, because some of the poorest communities in the poorest countries in the world are going to be the worst hit."⁹ Inequality in the fallout from climate change, coupled with inequality in access to resources to adapt to the new normal or mitigate it, raises issues of justice for "the world's poor and

3. The Intergovernmental Panel on Climate Change (IPCC) issues periodic Assessment Reports that provide scientific evidence supporting the existence of anthropogenic climate change. The latest report is the Fifth Assessment Report, issued beginning in 2013. *Fifth Assessment Report (AR5)*, IPCC, <https://www.ipcc.ch/report/ar5/> (last visited Jan. 21, 2018) (The report is divided into three Working Group Contributions and one Synthesis Report, each of which is available from the source cited.).

4. See DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 631–32 (3rd ed. 2007).

5. See, e.g., Sonja Vermeulen et al., *Climate Change, Agriculture and Food Security: A Global Partnership to Link Research and Action for Low-Income Agricultural Producers and Consumers*, 4 CURRENT OPINION ENVTL. SUSTAINABILITY 128 (2012) (discussing efforts by the Research Program on Climate Change, Agriculture and Food Security (CCAFS) to strategically direct research in order to more effectively address climate change mitigation and adaptation); John Recha et al., *Coping with Unpredictable Rainfall Patterns in Nyando*, RES. PROGRAM ON CLIMATE CHANGE, AGRIC. & FOOD SECURITY (Jan. 16, 2017), <https://ccafs.cgiar.org/blog/coping-unpredictable-rainfall-patterns-nyando#.WmUIxKinFPZ>.

6. See generally WORLD HEALTH ORGANIZATION [WHO], CLIMATE CHANGE AND HUMAN HEALTH: RISKS AND RESPONSES 79–155 (A.J. McMichael et al. eds., 2003), <http://www.who.int/globalchange/publications/climchange.pdf?ua=1> (discussing the relationship between climate change and infectious disease).

7. See generally HOLLEY RALSTON ET AL., GERMANWATCH, CLIMATE CHANGE CHALLENGES TUVALU (2004), <https://germanwatch.org/download/klak/fb-tuv-e.pdf>.

8. In 2013, the Guardian reported that the IPCC had revised its September report to reflect an estimate of 555 billion tonnes of carbon emitted since 1750, noting that the report also showed global emissions at the time running at approximately 10 billion tonnes a year. See *IPCC Revises Carbon Emission Figures in Recent UN Climate Report*, GUARDIAN (Nov. 13, 2013), [<http://sustainabilityoutlook.in/news/ipcc-revises-carbon-emission-figures-recent-un-climate-report-86028>].

9. Matt McGrath, *Climate Inaction Catastrophic - US*, BBC NEWS (Mar. 31, 2014), <http://www.bbc.com/news/science-environment-26824943> (quoting IPCC chair Rajendra Pachauri).

marginalized,”¹⁰ which are captured in a growing civil society platform for climate justice. The 2007 Malé Declaration notes that climate change “has clear and immediate implications for the full enjoyment of human rights, including, *inter alia*, the right to life, the right to take part in cultural life, the right to use and enjoy property, the right to an adequate standard of living, the right to food, and the right to the highest attainable standard of physical and mental health.”¹¹

The international community’s response, as exemplified in the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and its 1997 Kyoto Protocol and the 2015 Paris Agreement, has been primarily market-based. Markets, however, are concerned with profit-generation, not social justice. This paper will discuss human rights implications of the global market-based approaches to climate change. The neoliberal foundations of those approaches are a cause of concern, given the link between neoliberalism and growing global inequality.¹² Neoliberalism calls for free markets and deregulation, opening domestic markets to foreign competition, and privatizing state enterprises to reduce the role of the state.¹³ This approach to climate change has negative implications for human rights protections for constituencies that have limited economic resources and yet face the worst impacts of climate change.

This paper examines human rights implications of the market-based approaches to climate change and argues that greater attention to human rights will promote a more equitable climate regime. Section 1 discusses the urgency of the climate problem and the need for the duty bearers to respond to the claims of rights holders. Section 2 traces the development of the climate regime. Section 3 examines the market-based responses and critiques the skewed nature of emissions rights allocations that have left developing countries disadvantaged in the growing carbon market. Section 4 discusses parallels and disparities between the carbon market and the global currency market, underlining the imbalance between developed and developing countries in the established currency market and the burgeoning carbon market. The section also discusses human rights impacts of the market-based approach to climate change. Section 5 concludes the analysis.

I. URGENCY OF THE CLIMATE PROBLEM

Scientists agree that climate change is occurring at a faster rate and with greater impacts than previously projected.¹⁴ They warn that the goal of pegging

10. Larry Elliott & Ashley Seager, *Cut Carbon by up to Third to Save Poor, UN Tells West*, GUARDIAN, (Nov. 28, 2007, 7:46 EST), <https://www.theguardian.com/environment/2007/nov/28/climate-change> (quoting Kevin Watkins, editor of the United Nations Development Programme’s 2007/2008 Human Development Report).

11. Malé Declaration on the Human Dimension of Global Climate Change 1 (Nov. 14, 2007), http://www.ciel.org/Publications/Male_Declaration_Nov07.pdf.

12. See ALASTAIR GREIG ET AL., CHALLENGING GLOBAL INEQUALITY: DEVELOPMENT THEORY AND PRACTICE IN THE 21ST CENTURY 4–7 (2007), for a discussion of inequality between individuals on a global scale.

13. See Jonathan D. Ostry et al., *Neoliberalism: Oversold?*, FIN. & DEV., June 2016, at 38, 38, <http://www.imf.org/external/pubs/ft/fandd/2016/06/pdf/ostry.pdf>.

14. HUNTER ET AL., *supra* note 1, at 608; see also SPENCER WEART, RAPID CLIMATE CHANGE (2017), <https://history.aip.org/climate/pdf/Rapid.pdf>; *Is Current Warming Natural?*, NASA: EARTH

global warming to no more than two degrees Celsius above nineteenth century levels is unlikely to be met,¹⁵ and warming beyond two degrees Celsius could trigger a tipping point for rapid and uncontrollable climate hazards that could precipitate multiple meters of sea level rise by 2100.¹⁶ Reining in climate change requires removal of “carbon [from] the energy we use to run the economy.”¹⁷ In the 2015 Paris Agreement, states have committed to keep global warming to no more than one and a half degrees Celsius to two degrees Celsius above pre-industrial levels.¹⁸

Parties responsible for disrupting the global climate are the duty bearers and those suffering negative climatic impacts are the rights holders. The duty bearers are primarily the world’s industrialized (developed) nations who have fueled their two and a half centuries of development by burning Earth’s carbon-based resources.¹⁹ The rights holders are the populations residing in both developed and developing countries. Duty bearers have an obligation to reduce their emissions in quantities and at rates that will prevent dangerous climate change. If climate change reaches a tipping point before developing countries—who are still struggling to industrialize and raise their standards of living—have made significant strides in development, they are likely to remain trapped in poverty for a long time. This is because scarce economic resources will be diverted into putting out more frequent “climate fires”, rather than being used for development activities.

The goal of the UNFCCC is to stabilize atmospheric greenhouse gases at a level that would “prevent dangerous anthropogenic interference with the climate system.”²⁰ The treaty calls for quantified emissions limitations reductions for developed (industrialized) countries, which was operationalized through the Kyoto Protocol to the UNFCCC (now replaced by the 2015 Paris Agreement). The Protocol and the Paris Agreement contain procedures and substantive requirements needed to achieve the aim of the UNFCCC. However, an unusual feature of the

OBSERVATORY, <https://earthobservatory.nasa.gov/Features/GlobalWarming/page4.php> (last visited Jan. 22, 2018); *Is the Current Climate Change Unusual Compared to Earlier Changes in Earth’s History?*, IPCC, https://www.ipcc.ch/publications_and_data/ar4/wg1/en/faq-6-2.html (last visited Jan. 22, 2018).

15. See, e.g., Patrick Lynch, *Secrets from the Past Point to Rapid Climate Change in the Future*, NASA: GLOBAL CLIMATE CHANGE (Dec. 14, 2011), <https://climate.nasa.gov/news/649/secrets-from-the-past-point-to-rapid-climate-change-in-the-future/>.

16. *Id.*

17. PETER NEWELL & MATHEW PATERSON, *CLIMATE CAPITALISM: GLOBAL WARMING AND THE TRANSFORMATION OF THE GLOBAL ECONOMY I* (2010).

18. Paris Agreement to the United Nations Framework Convention on Climate Change art. 2, Dec. 12, 2015, T.I.A.S. No. 16-1104 (entered into force Nov. 4, 2016) [hereinafter Paris Agreement].

19. Cf. ORGANISATION FOR ECON. CO-OPERATION & DEV., *CLIMATE CHANGE: MEETING THE CHALLENGE TO 2050*, at 7 (2008), <http://www.oecd.org/dataoecd/6/21/39762914.pdf> (“One of the unique aspects of tackling climate change is the time lag between cause and effect. This generation pollutes but the next generation will suffer the consequences. A similar imbalance occurs geographically – the regions and countries worst-hit by the effects of climate change are expected to be those where emissions are lowest.”).

20. United Nations Framework Convention on Climate Change art. 2, *opened for signature* June 4, 1992, 1771 U.N.T.S. 107.

Paris Agreement is that, unlike the Kyoto Protocol, which was wholly legally binding, the former has both binding and non-binding aspects.²¹

The Preamble to the Paris Agreement acknowledges that climate change is a common concern of humankind and calls on the parties to “respect, promote and consider their respective obligations on human rights” when responding to climate change.²² This is significant as it is the first time that a multilateral environmental agreement has explicitly referenced human rights, underlining the urgency of the need to mitigate climate change.

II. EVOLUTION OF THE CLIMATE REGIME

The climate regime was launched in 1979 when the World Meteorological Organization convened the First World Climate Conference.²³ Almost a decade later in 1988, the first session of the Intergovernmental Panel on Climate Change (IPCC) was held.²⁴ In 1990, the Second World Climate Conference recommended that states adopt a framework climate change convention²⁵ that would establish broad commitments for members. Specific targets were to be set in more detailed agreements; the first of these was the Kyoto Protocol, the most recent, the Paris Agreement. That same year, the first session of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change was held.²⁶ Two years later, the 1992 UNFCCC was adopted in New York; it entered into force in 1994.²⁷ The UNFCCC established a general system of climate governance with few substantive obligations for curbing climate change.²⁸ In 1995, the IPCC released its Second Assessment of climate change, which concluded that human activity was changing Earth’s climate.²⁹

In 1997, the Kyoto Protocol to the UNFCCC was adopted, which set binding targets for industrial states (listed in Annex 1 of the Protocol) to achieve a five percent reduction in GHG emissions below 1990 levels over a five-year

21. See *Paris Climate Agreement Q&A*, CTR. FOR CLIMATE & ENERGY SOLUTIONS, <https://www.c2es.org/international/2015-agreement/paris-climate-talks-qa> (last visited Oct. 3, 2017); cf. Robin Andrews, *The European Union Just Voted to Make the Paris Agreement Legally Binding*, IFLSCIENCE (June 15, 2017, 5:29 PM), <http://www.iflscience.com/environment/european-union-voted-make-paris-agreement-legally-binding/> (noting that “[o]ne of the major complaints . . . [about] the Paris agreement is that there is no punishment of any form for countries that fail to meet their greenhouse gas (GHG)-slashing targets” and discussing a European Parliament vote in favor of binding national emissions targets).

22. Paris Agreement, *supra* note 19, pmb1.

23. HUNTER ET AL., *supra* note 1, at 666 tbl.11-9.

24. See *id.*

25. *Id.*

26. *Id.*

27. *First Steps to a Safer Future: Introducing the United Nations Framework Convention on Climate Change*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/essential_background/convention/items/6036.php.

28. HUNTER ET AL., *supra* note 1, at 665.

29. *Id.* at 666 tbl.11-9.

period.³⁰ In 2000, the IPCC's Third Assessment identified "discernible, man-made effect[s] on the environment,"³¹ suggesting that emissions reductions were not keeping up with the targets set under the Protocol. In 2001, the U.S. unilaterally repudiated the Protocol³² while that same year, Europe, Japan and the other nations agreed to the Marrakech Accords, which laid out enforcement rules on land use, land-use change and forestry under the Protocol.³³ In 2005, the Protocol entered into force and the European Union (EU) launched its carbon trading platform, the European Trading System (EU ETS).³⁴ In 2007, the IPCC's Fourth Assessment showed that emissions levels were "almost double pre-industrial levels and rising fast."³⁵ The First Reporting Period under the Protocol was set to run from 2008-2012.³⁶

In 2009, the Conference of the Parties (COP), the primary policy-making organ of the UNFCCC, held its fifteenth meeting in Copenhagen, where it was hoped that higher emissions reduction targets (even as high as thirty per cent for Annex 1 countries) would be set.³⁷ No such agreement was reached, and it was instead left for each country to decide how it would reduce its emissions, laying the foundation for the approach that was to be taken six years later in Paris, which requires that every state, industrial or non-industrial, adopt nationally determined contributions (NDCs) of emissions reductions.³⁸ In Copenhagen, a non-binding promise was made by developed countries to assist developing countries with climate finance and for industrial states to move forward with international monitoring of emissions.³⁹

Ahead of the Copenhagen conference, eleven countries met near Malé in the Maldives, "express[ing] alarm at the pace of [environmental] change" that was taking place on the planet in the wake of climate change.⁴⁰ This meeting marked the formation of the Climate Vulnerable Forum, which has grown to forty-three

30. See UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, FACT SHEET: THE KYOTO PROTOCOL 1 (2011), https://unfccc.int/files/press/backgrounders/application/pdf/fact_sheet_the_kyoto_protocol.pdf.

31. HUNTER ET AL., *supra* note 1, at 666 tbl.11-9.

32. *See id.*

33. *See generally* LULUCF - Developments at Past COP and SB Sessions, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/land_use_and_climate_change/lulucf/items/3063.php (last visited September 15, 2017).

34. HUNTER ET AL., *supra* note 1, at 666 tbl.11-9.

35. Stephen Humphreys, *Introduction: Human Rights and Climate Change*, in HUMAN RIGHTS AND CLIMATE CHANGE 1, 20 (Stephen Humphreys ed., 2009).

36. *See* HUNTER ET AL., *supra* note 1, at 666 tbl.11-9.

37. *See Appendix I - Quantified Economy-Wide Emission Targets for 2020*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/copenhagen_dec_2009/items/5264.php (last visited Jan. 26, 2018).

38. Paris Agreement, *supra* note 18, art. 4.

39. *See generally* Copenhagen Climate Change Conference - December 2009, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295.php (last visited July 21, 2017).

40. *Brief History of the CVF*, CLIMATE VULNERABLE F., <http://www.thecvf.org/web/climate-vulnerable-forum/brief-history-of-the-cvf/> (last visited Mar. 2, 2017).

countries.⁴¹ The sixteenth COP was held in Cancun, Mexico, in November 2010. Three important outcomes of this meeting were the proposal of a technology mechanism to boost innovation, the adoption of an Adaptation Framework and the establishment of a Green Climate Fund to assist developing countries.⁴² This proposal was a follow-up to the promise made by developed countries in Copenhagen, which came to fruition with the convening of the first meeting of the Board of the Green Climate Fund in 2012.⁴³ In Cancun, countries were also urged to take human rights into consideration when responding to climate change, and this call would come to fruition with the inclusion of human rights in the preamble of the Paris Agreement.

COP 17 was held in Durban, South Africa, in November and December, 2011, and member-states promised to have a new climate treaty (to succeed the Kyoto Protocol) in place by 2015.⁴⁴ The decision was also made in Durban to operationalize the Green Climate Fund (GCF), which would help non-industrial countries with adaptation and developing carbon-free technologies.⁴⁵ On the human rights front, activists in Durban called for the GCF to be de-linked from the IMF/World Bank Debt Sustainability Framework, which they argued would only exacerbate the crushing debt burdens that developing countries already bear.⁴⁶

In 2012, COP 18 was held in Doha, Qatar. Here, participants discussed the loss and damage associated with climate change impacts in developing countries, which are especially vulnerable to the adverse effects of climate change.⁴⁷ The goal was to enhance their adaptive capacity.⁴⁸ COP 19 was held in Warsaw, Poland, in 2013 where an international mechanism to address loss and damage was established; a timeline for capitalization of the Green Climate Fund was set; an agreement was reached on the rulebook for reducing emissions from deforestation;

41. *CVF Participating Countries*, CLIMATE VULNERABLE F., <http://www.thecvf.org/web/climate-vulnerable-forum/cvf-participating-countries/> (last visited Mar. 2, 2017).

42. *Cancun Climate Change Conference - November 2010*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/cancun_nov_2010/meeting/6266.php (last visited July 21, 2017).

43. See Louise Helen Brown & Athena Ballesteros, *What's Next for the Green Climate Fund?*, WORLD RESOURCES INST. (Aug. 27, 2012), <https://www.wri.org/blog/2012/08/whats-next-green-climate-fund> (describing the Green Climate Fund's first meeting and examining issues for the Fund's board to address in the future).

44. See *Durban Climate Change Conference - November/December 2011*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/durban_nov_2011/meeting/6245.php (last visited July 21, 2017).

45. John M. Broder, *Climate Talks in Durban Yield Limited Agreement*, N.Y. TIMES (Dec. 11, 2011), http://www.nytimes.com/2011/12/12/science/earth/countries-at-un-conference-agree-to-draft-new-emissions-treaty.html?_r=1&src=rechp.

46. See Press Release, Office of the High Comm'r for Human Rights, *Climate Finance Should Not Add to the External Debt Burdens of Poor Recipient Countries, Says UN Expert* (Dec. 8, 2011), <http://newsarchive.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=11697&LangID=E> (quoting Cephas Lumina, at the time the United Nations Independent Expert on foreign debt and human rights).

47. DOREEN STABINSKY, COP 18 OUTCOME ON LOSS AND DAMAGE OPENS DOOR FOR NEW MECHANISM 1 (TWN Doha News Update No. 26, 2012), http://www.twn.my/title2/climate/news/doha01/TWN_update26.pdf.

48. *Doha Climate Change Conference - November 2012*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/meetings/doha_nov_2012/meeting/6815/php/view/decisions.php (last visited Mar. 1, 2017).

and the monitoring, reporting and verification arrangements for the upcoming 2015 treaty were finalized.⁴⁹ In 2014, COP 20 was held in Lima, Peru, followed a year later by the landmark COP 21 in Paris where an Agreement succeeding the Kyoto Protocol was adopted.

COP 21 was a historic moment as 195 member states of the UNFCCC signed onto the Paris Agreement, making it the first “universal. . . global climate deal.”⁵⁰ While non-binding national commitments were necessary to meet the goals of the Agreement, they are also considered one of the Agreement’s weaknesses because they allow parties to individually set targets that fall far short of what is required to prevent dangerous climate change.⁵¹ This weakness could change over time if states consistently live up to the five-year reporting period called for by the Paris Agreement and tighten their emissions targets each time to bring the goal of one and a half degrees Celsius warming into reality; such consistency could, over time, evolve into binding customary international law if accompanied by “a sense of [binding] legal obligation.”⁵²

COP 22 was held in Marrakech, Morocco, in 2016 in an atmosphere of jubilation since the Paris Agreement had just entered into force only a few days earlier on November 4, 2016.⁵³ “By the close of the Marrakech conference, [the Paris Agreement] had been ratified by 111 countries representing more than three-fourths of global emissions.”⁵⁴ By November 2017, all countries had signed onto the Paris Agreement, including Nicaragua, which had initially abstained because it views the Agreement as not going far enough to mitigate climate change.⁵⁵

The reference to human rights in the Paris Agreement is a victory for activists who spent many years advocating for climate projects to protect such rights, but “much work remains to turn this commitment into protections on the ground.”⁵⁶ The Agreement notes that climate change is a common concern for

49. *Warsaw Outcomes*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/key_steps/warsaw_outcomes/items/8006.php (last visited July 22, 2017).

50. *Paris Agreement*, EUROPEAN COMMISSION, https://ec.europa.eu/clima/policies/international/negotiations/paris_en (last visited July 22, 2017).

51. There are binding and non-binding aspects to the Agreement. *10 Things You Should Know About the Paris Agreement, and What They Mean For You*, NATURE CONSERVANCY, <https://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/the-paris-agreement-what-does-it-mean.xml> (last visited Jan. 19, 2018).

52. DOUG TEDESCHI ET AL., GEORGETOWN UNIV. LAW CTR., A GUIDE TO THE BASICS OF INTERNATIONAL LAW 2 (2005, updated 2012), <https://www.law.georgetown.edu/academics/academic-programs/legal-writing-scholarship/writing-center/upload/AGuidetotheBasicsofIntlLaw.pdf>.

53. Patricia Espinosa & Salaheddine Mezouar, Opinion, *Paris Enters into Force – Celebration and Reality Check*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (Nov. 4, 2016), <http://newsroom.unfccc.int/paris-agreement/paris-agreement-enters-into-force-celebration-and-reality-check/>.

54. CTR. FOR CLIMATE & ENERGY SOLS., OUTCOMES OF THE U.N. CLIMATE CHANGE CONFERENCE IN MARRAKECH 2 (2016), <https://www.c2es.org/site/assets/uploads/2016/11/outcomes-of-the-u-n-climate-change-conference-in-marrakech.pdf>.

55. Sarah Begley, *Nicaragua Didn’t Sign the Paris Agreement Because It Didn’t Go Far Enough*, TIME (May 31, 2017), <http://time.com/4799844/nicaragua-paris-climate-agreement-countries/>.

56. *Human Rights in the Paris Agreement*, HUM. RTS. & CLIMATE CHANGE WORKING GROUP, <http://climaterights.org/our-work/unfccc/road-to-paris-cop21-protect-human-rights-in-climate-action/> (last visited Feb. 22, 2017).

humanity and calls on member-states, “when taking action to address climate change, [to] respect, promote and consider their respective obligations on human rights.”⁵⁷ Common concern in international law indicates that human rights is still soft law in the climate regime, which means that adherence to that standard is not yet legally binding.⁵⁸

III. MARKET-BASED RESPONSES TO CLIMATE CHANGE

In operationalizing the goals of the UNFCCC, the Kyoto Protocol allocated emissions rights to parties that accepted targets for limiting or reducing emissions, listed in Annex B.⁵⁹ This excluded developing countries as they were not allocated emissions reductions targets under the Protocol. It created three market-based mechanisms to incentivize states to reduce greenhouse gas emissions: (1) emissions trading; (2) joint implementation of carbon-offsetting projects; and (3) the clean development mechanism (CDM).⁶⁰ These mechanisms are the bedrock of the global carbon regime. The emissions patterns for developed countries were “grandfathered in” from 1990 levels, an approach that indirectly rewarded industries that had done the least to cut back emissions before the Protocol entered into force.⁶¹

The right to emit greenhouse gases (RTE) is exercised through emissions trading or cap and trade. Permits are allocated by states to certain industrial producers, and trading is between emitters that have surplus credits and those that need additional credits to offset their emissions elsewhere.⁶² Joint implementation occurs where partnerships can be formed between developed countries and economies-in-transition to carry out emissions-reduction or removal projects in the transitioning economies. The clean development mechanism (CDM) is where emissions-reduction projects are implemented in developing countries. CDM projects generate Certified Emission Reduction units (CERs) or carbon credits that the developed country or private party can sell in the carbon market. Under the Protocol, each participating country was allocated a certain number of Assigned Amount Units (AAUs)—the market’s “carbon currency”—based on its reduction target.⁶³ Countries were to keep their average emissions for the 2008-2012 period within the number of AAUs that they have been allocated.⁶⁴ If a state exhausted its

57. Paris Agreement, *supra* note 18, pmb1.

58. See generally Andrew T. Guzman & Timothy L. Meyer, *International Soft Law*, 2 J.LEGAL ANALYSIS 171 (2010) (analyzing the nature of international soft law and reasons for states’ decisions to use soft law over binding law in various circumstances).

59. *Kyoto Mechanisms – Emissions Trading*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/mechanisms/emissions_trading/items/2731.php (last visited Feb 11, 2017).

60. *Kyoto Mechanisms - Background*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/mechanisms/items/2998.php (last visited Aug. 10, 2017).

61. See Philippe Cullett, *The Kyoto Protocol and Vulnerability: Human Rights and Equity Dimensions*, in HUMAN RIGHTS AND CLIMATE CHANGE, *supra* note 36, at 183, 202.

62. See Daniel C. Matisoff, *Making Cap-And-Trade Work: Lessons from the European Experience*, 52 ENVIRONMENT 10 (2010), for a good overview on how emissions cap-and-trade works.

63. NEWELL & PATERSON, *supra* note 17, at 99.

64. *Id.*

AAUs but still needed more, it could purchase additional AAUs from another party that may have a surplus because it was not emitting as much.⁶⁵ The UN keeps a log of the transactions “to prevent double counting.”⁶⁶

Initially conceived as a mechanism for North to South transfers of wealth and technology, permit allocations were proposed to be made under a per capita basis.⁶⁷ The implication was that this would enable more populated global South countries to sell their “extra” permits to less populated industrial countries, thus bringing a degree of equity into the system.⁶⁸ Once the permit concept was formally incorporated into the Kyoto Protocol negotiations, “it became clear that the equitable part of the equation was to be eliminated.”⁶⁹ With the creation of the SDM, the international community has an opportunity to reintroduce and operationalize an equitable, per capita dimension to carbon trading on a global scale.

“Each AAU is worth one tonne of carbon dioxide equivalent or tCO₂e.”⁷⁰ The tCO₂e is the unit of account in all carbon markets.⁷¹ It is used for comparable measurement purposes by carbon market participants.⁷² The tCO₂e can be considered as a kind of “gold standard” device, which brings stability into the carbon markets because it signals value among the different carbon currencies or permits.⁷³ Unlike the mainstream global economy, which abandoned its gold standard in 1971, the incorporation of an underlying unit of value (the tCO₂e) in the carbon market could shield this market from inflation and destabilizing market swings that have become commonplace in the global financial markets.⁷⁴ In terms of human rights, cap and trade could potentially be beneficial for developing countries that could use its proceeds for adaptation, mitigation and sustainable development programs.

As currently conceived, the right to emit (RTE) is not a human right. Under the Paris Agreement, however, an opportunity exists to include human dimensions to the right when operationalizing the Sustainable Development Mechanism (SDM). Key characteristics of human rights are that they are universal, inalienable and inherent in all human beings.⁷⁵ This means that every human being is entitled to all the rights all the time; the rights are interdependent and indivisible.

65. *Id.*

66. *Id.*

67. *Id.* at 26.

68. *See id.*

69. *Id.*

70. *Id.* at 99.

71. *Id.* at 86.

72. *See id.*

73. *See infra* p. 17–18 (discussing the gold standard in the currency markets).

74. Adherence to the gold standard in currency markets was at its heyday during the 1880-1914 classical gold standard period when there was “unprecedented economic growth and relatively free trade in goods, labor and capital.” Michael D. Bordo, *Gold Standard*, LIBR. ECON. & LIBERTY: THE CONCISE ENCYCLOPEDIA OF ECONOMICS, <http://www.econlib.org/library/Enc/GoldStandard.html> (last visited July 22, 2017). If the tCO₂e does act like a gold standard device, adherence to it could potentially have a similar effect in the carbon markets.

75. United Nations Hum. Rts. Office of the High Comm’r, WHAT ARE HUM. RTS?, <http://www.ohchr.org/EN/Issues/Pages/WhatareHumanRights.aspx> (last visited Feb. 11, 2017).

These characteristics are clearly lacking in emissions rights, which can be bought, sold and traded off between some parties to the exclusion of others. Emissions rights have also not been universal; AAUs have only been allocated and traded among Annex I parties since developing countries were not given emissions caps under the Protocol, but were instead included as sites for implementing clean development programs.⁷⁶

Emissions trading is done largely through corporations who cannot be reached by human rights law for redress, as the human rights regime places a duty on state governments, not private entities, as the guarantor of citizens' rights.⁷⁷ Given that the primary subjects of human rights law are states and their inhabitants, the central role that corporations play in the carbon market means that non-state actors—who lie outside the reach of human rights law—can be at the center of many of the human rights violations arising from CDM climate change programs. Take, for example, the Bajo Aguán project in Honduras. Owned by a subsidiary of the Grupo Dinant Company, the project aims to recover biogas from effluent created by a palm oil mill located on, and supplied by company-owned plantations located on, land at the center of a violent dispute that has caused the deaths of over 100 peasant farmers.⁷⁸ Despite those deaths, and other reported human rights violations by security guards of the owner of the company, the CDM Board registered the project and the International Finance Corporation (IFC), the private sector arm of the World Bank, proceeded and financed it.⁷⁹ The CDM Board, while noting that the violations that had occurred were deplorable, stated that its mandate was for greenhouse gas emissions and that it was therefore powerless to stop registration of the project on human rights grounds.⁸⁰ In lending to the project, the IFC also “failed to comply with its own ethical standards.”⁸¹

Some states have also failed in their duty to guarantee that human rights infringements do not occur in CDM projects in its jurisdictions, with an example being the World Bank-funded Olkaria geothermal power project in Kenya.⁸² For this project, the indigenous Maasai population was involuntarily resettled from their 4,200-acre settlement to a 1,700-acre location without prior assurance that their new home would be of sufficient quality to hold their cattle, which is the

76. See DEAN BAKER & JAMES BARRETT, ECON. POLICY INST., EPI ISSUE BRIEF NO.131, CLEANING UP THE KYOTO PROTOCOL 1 (1999), <https://secure.epi.org/files/page/-/old/issuebriefs/ib131.pdf> (“Under the CDM, nations in the developed world would be subject to caps on greenhouse gas emissions while developing nations would not. Developed nations would be allowed to exceed their caps as long as they found ways to reduce emissions by an equal amount in developing nations.”).

77. See *Government Obligations*, HUM. RTS. ADVOC. & HIST. INT’L HUM. RTS. STANDARDS, <http://humanrightshistory.umich.edu/accountability/obligation-of-governments/> (last visited July 22, 2017).

78. See Chris Lang, *How the World Bank’s Safeguards Failed to Uphold Human Rights in Honduras and Kenya*, REDD-MONITOR (June 19, 2015), <http://www.redd-monitor.org/2015/06/19/how-the-world-banks-safeguards-failed-to-uphold-human-rights-in-honduras-and-kenya/>.

79. *Id.*

80. *Id.* (quoting and citing Martin Hession, CDM Board chair at the time).

81. *Id.* (quoting Nina Lakhani, *World Bank’s Ethics Under Scrutiny After Honduras Loan Investigation*, GUARDIAN (Jan. 13, 2014, 11:07 EST), <https://www.theguardian.com/global-development/poverty-matters/2014/jan/13/world-bank-ethics-scrutiny-honduras-loan-investigation>).

82. Wlfgang Obergassel et al., *Human Rights and the Clean Development Mechanism: Lessons Learned from Three Case Studies*, 8 J. HUM. RTS. & ENV’T. 51, 66–68 (2017).

primary source of Maasai livelihood, and would have adequate housing and security of tenure through allocation of title deeds.⁸³ The World Bank's policy on involuntary resettlement was not properly followed, resulting in conflict between the Maasai and the project implementers. The human rights violations in cases such as this one, whether by private bodies or state entities, prompted human rights activists to press for the inclusion of human rights protection in the Paris Agreement.

As compared with human rights, the right to emit greenhouse gases is a fungible, new right, which cannot be claimed by human beings based on being human; rather, it is an exclusive right available only to state and corporate actors, to be used for trading and investment. Given the problems that have emerged in realizing that right under the CDM, its operationalization under the SDM should be done in ways that will promote rights-based sustainable development.

The creation of a right to promote economic ends that are not necessarily linked to social justice considerations is not without precedent in international law. The RTE can be compared with the global currency market's special drawing rights (SDR) that were created in 1969 under the Bretton Woods system.⁸⁴ By the end of the 1960s, the expansion of global trade had outstripped available world reserve assets, threatening an economic deflation.⁸⁵ The SDR was created as "a new global reserve asset"⁸⁶ to support growing international trade by entitling holders to "obtain an equivalent amount of freely usable currency by agreement from another [SDR] holder or by designation by the [International Monetary] Fund [IMF] from another participant."⁸⁷ The unit value for the SDR was equivalent to the gram value of gold (0.888671 grams) in the U.S. dollar—the global reserve currency—under the gold standard (or par value) system.⁸⁸ Before the United States unilaterally took the international community off the gold standard in 1971, the par value system had been successful in maintaining exchange rate stability between currencies, and the creation of the SDR was designed as a reserve asset⁸⁹ that would help maintain stability in an expanding global market. The subsequent demise of the par value system meant that states had to find another way to mitigate the risks that came with freely floating exchange rates. The IMF did this by drawing on its emergency powers and adopting a method of calculating the value of the SDR using a basket of currencies, which were originally sixteen but today are only five: the Euro, the

83. *Id.*

84. See IMF, *Special Drawing Right (SDR)*, Factsheet, at 1 (Oct. 2017), <http://www.imf.org/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR?pdf=1> [hereinafter *SDR Factsheet*] ("The SDR was created by the IMF in 1969 as a supplementary international reserve asset in the context of the Bretton Woods fixed exchange rate system.").

85. Tobias M.C. Asser, Assistant Gen. Counsel at the IMF (retired), Lecture: Aspects of International Finance – An Introduction for Lawyers at the Georgetown University Law School 93 (July 1997). (International Finance class lecture notes on file with author).

86. *Id.*

87. *Id.*

88. *Id.*

89. *Special Drawing Rights*, INT'L MONETARY FUND, <http://www.imf.org/external/about/sdr.htm> (last visited July 22, 2017) ("The Special Drawing Right . . . is an international reserve asset, created by the IMF in 1969 to supplement the existing official reserves of member countries.").

Japanese yen, the Chinese renminbi, the British pound sterling, and the U.S. dollar.⁹⁰

In the same way that the currency markets resorted to the creation of the SDR as a mechanism to maintain economic stability in the wake of expanding global trade, the RTE has been created as an attempt to stabilize concentrations of greenhouse gases in the atmosphere in response to fossil-fueled industrialization. SDRs are a way of mitigating the risks of freely floating currencies on economic stability, while RTEs are a way of mitigating the risks of increasing greenhouse gases on climate stability. The SDR system favors the economic liquidity of states that originate its basket of currencies, which gives them an advantage over non-originating countries that are dependent on the former's liquidity. Similarly, carbon trading using RTEs under the Protocol favored developed (Annex 1) countries, giving them an advantage over developing countries in the carbon economy. This advantage makes it possible for industrial states to garner new economic resources through carbon trading, and put those resources towards mitigating and adapting to climate change. However, non-industrial states have had to content themselves with finding adaptation responses to climate change through the aid regime, which is controlled by industrial, donor states.

SDRs are allocated to states in proportion to their IMF quotas. This means that highly capitalized, wealthy states like the United States, Japan, Britain and China have larger SDR quotas,⁹¹ which logically, must make it easier for these economies to engage in and expand their presence in world trade. By contrast, low-capitalized developing states have small SDR shares that limit their ability to expand their economies and engage more profitably in world trade.⁹² At present, the United States has the largest SDR quota valued at approximately \$118 billion USD while Tuvalu has the smallest at about \$3.5 million USD.⁹³ In the climate context, the US was a very high emitter of greenhouse gases at 16.5 metric tons per capita as of 2014, while Tuvalu in 2014 was a negligible emitter at 1 metric ton per capita.⁹⁴ Thus, the RTE approximates the SDR, which reinforces the proposition that the carbon market has been patterned after the unequal global currency market.⁹⁵

Similar to SDRs, RTEs under the Protocol have been allocated to states in proportion to their 1990 emissions levels, thereby grandfathering emissions rights for industrial states through which they could engage in carbon trading, while developing countries had none as they were not given emissions caps under

90. *SDR Factsheet*, *supra* note 84, at 1.

91. See generally IMF, *IMF Quotas*, Factsheet (Oct. 2017), <http://www.imf.org/About/Factsheets/Sfacts/2016/07/14/12/21/IMF-Quotas?pdf=1>.

92. See *id.* at 1 (“The current quota formula is a weighted average of GDP (weight of 50 percent), openness (30 percent), economic variability (15 percent), and international reserves (5 percent).”).

93. *Id.*

94. *CO2 Emissions (Metric Tons per Capita)*, WORLD BANK, <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?page=4> (last visited Aug. 10, 2017).

95. Given the glaring inequality in the global economy, we can expect that the carbon market, so long as it remains modelled after the currency markets, will also be a site for continued global inequality.

Kyoto.⁹⁶ The absence of RTE allocations for developing countries under the CDM is a reflection of two factors: (1) the country's insignificant emission levels; and (2) their lack of economic or technological resources to become significant greenhouse gas emitters. The requirement under the Paris Agreement for all states, developed and developing, to declare their intended nationally determined contributions (NDCs) for reducing emissions brings developing countries under an emissions cap largely because of the rising emissions of China and India⁹⁷ and other unbound large emitters like Malaysia, Saudi Arabia, South Korea and Israel⁹⁸ since the entry into force of the Kyoto Protocol, which suggests that these countries will get RTEs under the SDM. Other large emitters not bound under the Protocol Developing countries, are nonetheless coming under a cap without having had the benefit of being investors in the carbon market at the time of the market's creation. They also remain dependent on industrial states to allocate them resources through the aid regime for their transition into green economies. These realities underscore the unequal global political economy within which the carbon economy is emerging.

Rather than subjecting all developing countries, including those that are net carbon sinks, to the same requirements of adopting an emissions cap, a better approach under the SDM could be the creation of a carbon investment right (CIR) for both developed and developing countries that is based on both per capita (PC) and a protection-of-natural-resource-endowments (PNRE) basis. This system would work by allocating CIRs based on a country's population; the greater a country's population and the more natural resources a country has, the more CIRs are allocated. A formula for allocating these investment rights is $PC + PNRE = CIR$. The SDM and its emissions trading scheme, as well as other voluntary trading schemes, could be configured under the Paris Agreement to incorporate such a right.

In the global currency markets, the SDR "is a potential claim on the freely useable currencies of IMF members"⁹⁹ by states that need to shore up their currency reserves. Freely useable currencies are the five basket currencies that were chosen because they are widely used in international transactions.¹⁰⁰ In a similar vein, the RTE is a potential claim on the freely usable carbon resources of the Earth by (industrial) states that want to maintain or increase their already high standards of living. Freely useable fossil fuels (in the sense that if one can access them one is free to use them) are currently the driving engine of industrial development, which facilitates higher standards of living. Holders of SDRs can buy, with interest,

96. See BAKER & BARRETT, *supra* note 77, at 1 (noting the absence of emissions caps for developing nations under the Kyoto Protocol).

97. See Ed King, *Kyoto Protocol: 10 Years of the World's First Climate Change Treaty*, CLIMATE HOME NEWS (Feb. 16, 2015, 2:37 PM), <http://www.climatechangenews.com/2015/02/16/kyoto-protocol-10-years-of-the-worlds-first-climate-change-treaty/> ("[In 2015,] analysts say emissions could rise 2.5%, 65% above 1990 levels, driven by growth in China and India."). The USA did not ratify the Protocol and was thus another large emitter that was left out of Kyoto's caps.

98. Fred Pearce, *The Climate Freeloaders: Emerging Nations Need to Act*, YALE ENV'T 360 (Jan. 29, 2009), http://e360.yale.edu/features/the_climate_freeloaders_emerging_nations_need_to_act.

99. *SDR Factsheet*, *supra* note 84, at 1; see also Lesley Wroughton, *Q+A-What's Next for the IMF Special Drawing Right?*, REUTERS (Nov. 10, 2010, 3:51 PM), <http://www.reuters.com/article/2010/11/1/imf-sdrs-idUSN1119264120101111>.

100. See *SDR Factsheet*, *supra* note 84, at 1–2.

global currencies in exchange for their SDRs.¹⁰¹ RTE holders, whether these rights are AAUs, EUAs or other carbon “currencies,” can buy greenhouse gas atmospheric space among themselves in exchange for their RTEs.

SDR holders can redeem their rights in either through “voluntary exchanges between members” or by the IMF “designating members with strong external positions to purchase SDRs from members that have weak external positions.”¹⁰² States with “strong external positions” in the SDR regime are comparable to, and in many cases synonymous with, the states that have high greenhouse gas emissions as evidenced in the earlier example of the United States and Tuvalu.¹⁰³ The voluntary exchange of SDRs in the currency market is akin to emissions trading in the carbon market. The purchase of SDRs by states that have “strong external positions” from those that have “weak external positions” can be compared with emissions credit purchases by industrial states that implement clean energy or carbon sequestration projects in non-industrial countries under the CDM and joint implementation (JI) initiatives, and which will likely be extended to the SDM. Industrial states have high external greenhouse gas emissions positions while developing nations (with exceptions like China, Malaysia and India) have low external emissions positions. This should work in favor of developing nations and put them in a strong position for getting carbon investment rights for climate change adaptation and mitigation. However, the Protocol created a rights regime that strengthens the position of climate duty bearers and correspondingly weakens the position of climate rights holders. This is an example of how economic rights (in this case the RTE) often ignore issues of social justice. However, when those concerns are raised, the response is that the market will even out discrepancies and promote efficiency. There is an opportunity to rectify this inequitable approach by creating a broader and more balanced RTE under the SDM.

The purchase of additional emissions space by developed countries from developing ones through CDM and JI projects, even though providing developing countries with some income they could potentially use for development, effectively amounts to developing countries selling-off their right to development. This is because these countries do not have the technological capacity to put that income towards their own industrialization. By trading away their carbon space to other countries, they are limiting their ability to industrialize using the cheapest form of energy—carbon. The question remains as to whether clean energy sources will become affordable enough for developing countries to industrialize at a pace and on a timeline, that does not prolong the poverty found in many of these states. Many of these countries face huge economic challenges realizing basic rights for their citizens—food, clean water, education and basic sanitation to name a few.¹⁰⁴

101. *See id.* at 2.

102. *Id.*

103. *See IMF Quotas*, INT’L MONETARY FUND (Oct. 13, 2017), <http://www.imf.org/en/About/Factsheets/Sheets/2016/07/14/12/21/IMF-Quotas> (noting that “the largest member of the IMF is the United States, with a current quota (as of March 2017) of SDR82.99 billion (about US\$118 billion), and the smallest member is Tuvalu, with a quota of SDR2.5 million (about US\$3.5 million)”).

104. *See generally* Roland Burke, *Some Rights Are More Equal than Others: The Third World and the Transformation of Economic and Social Rights*, 3 HUMANITY 427 (2012) (discussing the history of

Thus, money they earn perforce goes to such priorities rather than to industrializing the economy. Meanwhile, global emissions levels will eventually have to be capped, and while cost-effective alternatives to fossil-fuel based industrialization are still under development, non-industrial states that are selling-off their emissions space today will find their carbon-based development options limited in the future.¹⁰⁵

Adopting resource and per capita investment units under a CIR model can be a step towards creating a more equal climate mitigation and adaptation field. There could, for example, be a forest amount unit of account (FAU) for states that have significant forest cover; animal biodiversity amount units (ABAU) for countries that have large numbers of animal species (and these could be further subdivided); flora biodiversity amount units (FBAU); water amount units (WAU) for water bodies that are carbon sinks, soil quality units (SQU) for soils that sequester carbon and so on. Investing in such units could be an incentive for developing and developed countries to prioritize sustainable use and conservation of their natural resources, resulting in both economic benefits and environmental preservation that benefits both states and the whole planet in the wake of climate change.

Just as SDRs are financial assets that bastion the position of wealthy states in global economy, RTEs are “reserve atmospheric assets” that bastion carbon-based development for industrial states. It remains to be seen whether RTEs under the SDM will change this, but the negatively skewed distribution of carbon capitalism, designed as it is on trading lucrative emissions rights for industrial states at the expense of non-industrial ones, does not augur well for social or economic justice.

Fairly priced CIR instruments for developing states as an integral part of the market, could produce a more normal distribution of carbon trading and bring the market closer to a bell-shaped curve. In the meantime, a market that is patterned on an unfair¹⁰⁶ global currency market remains a cause for concern. The allocation of some SDRs to developing countries has not resulted in a globally just currency market, so it is likely that the allocation of RTEs to those countries under the SDM, while somewhat improving the current skew of the carbon market, will give a similarly unequal result.

The right to emit greenhouse gases, if not properly controlled and fairly allocated, threatens, *inter alia*, human rights to life, livelihoods, shelter, property, health and a clean environment. As currently conceived, the RTE primarily facilitates the swapping of emissions locations rather than substantively reducing emissions. The current configuration can also provide an incentive for increasing emissions through the speculative capital accumulation opportunities that it

economic and social rights in the developing world and the impact of a governmental focus on development and modernization on their evolution).

105. See Anil Agarwal, *A Southern Perspective on Curbing Global Climate Change*, in CLIMATE CHANGE POLICY: A SURVEY 375, 377 (Stephen H. Schneider et al. eds., 2002).

106. See, e.g., *Held in Reserve: A Brief Guide to the IMF's "Currency,"* ECONOMIST (Apr. 8, 2009), <http://www.economist.com/node/13447239#print>.

provides.¹⁰⁷ The Protocol gave industrialized states greater rights to the global atmospheric commons while failing to also give them an enforceable duty to protect the human rights of the world's citizens that are negatively impacted by climate change. The Paris Agreement, in potentially extending RTEs to developing countries through the SDM, also fails to articulate an enforceable duty to protect human rights within the climate regime even though human rights are mentioned in the Preamble.

Another impediment to the realization of human rights through a predominantly market-based approach to climate change is the structure of the carbon market itself. The market is focused on "easing cuts in rich countries" with "little to say about the long-term development needs of poorer countries."¹⁰⁸ The privatization of greenhouse gas emissions rights may well determine the eventual global distribution of economic development capacity. This could negatively impact the full realization of the right to development for developing countries. Under current projections, stabilizing global temperatures will, in addition to the reductions required from industrial countries, require that emissions from developing countries peak by 2030,¹⁰⁹ which is hardly enough time for them to meet all their development goals.¹¹⁰

IV. HUMAN RIGHTS PARADIGM AND CLIMATE CHANGE

Human rights activists have argued that market-based approaches to climate change have been primarily driven by the "inventiveness and greed of financiers"¹¹¹ and not by concerns to contain and possibly reverse climate change. Climate capitalism, as it currently operates, "discriminate[s] against those who cannot afford to pay"¹¹² and widens the economic gap between climate duty bearers and climate rights holders. This growing inequality, and the increasing vulnerability that it engenders, is at the heart of the human rights call for climate justice. Privatization of emissions access to the atmosphere, under today's neo-liberal model, is creating impediments to the realization of already recognized human rights. This has prompted some scholars to call for recognition of the atmosphere as a common heritage of humanity.¹¹³ With the latter approach, human rights can "provide a compass for policy orientation" that promotes equity.¹¹⁴

107. See generally jonrainer, *Emissions Trading Scheme: Corruption, Speculation & Fraud*, ISSUES IN PHYSICS AND SOCIETY: CLASS BLOG FOR PHYS 3650 AT BROOKLYN COLLEGE (Feb. 18, 2013), <https://physicsandsocietybc.wordpress.com/2013/02/18/eu-emissions-trading-scheme-corruption-speculation-fraud> (discussing speculation problems in the EU's Emissions Trading Scheme).

108. Stephen Humphreys, *Conceiving Justice: Articulating Common Causes in Distinct Regimes*, in HUMAN RIGHTS AND CLIMATE CHANGE, *supra* note 35, at 299, 304.

109. Pamela Duncan, *Critical Mass of States Will Reach Emissions Peak by 2030 under Climate Deal*, GUARDIAN (Dec. 13, 2015, 1:01 EST), <https://www.theguardian.com/environment/datablog/2015/dec/13/emissions-peak-by-2030-climate-deal-co2>.

110. Cf. Humphreys, *supra* note 35, at 21.

111. NEWELL & PATERSON, *supra* note 17, at 107.

112. Humphreys, *supra* note 35, at 306.

113. See Cullet, *supra* note 61, at 199.

114. Humphreys, *supra* note 35, at 19.

The speed with which new emissions rights have been created in international climate change law¹¹⁵ contrasts with the slow pace of realization of social, economic and cultural rights that have been on the international agenda for decades prior to the climate problem coming into existence. Rights appear to be hierarchical, with industrial nations' economic rights trumping those of developing countries. Developing countries are at a disadvantage because they were left out of carbon trading under the Protocol. As such, developed countries have first-mover positions in the global carbon market that will be implemented under the SDM. The exclusion of developing countries as investors in an economy that, in 2015, was valued at almost €48.4 billion,¹¹⁶ further tilted global economic power in favor of industrial states and deprived developing countries of new resources being generated from this market, which they could put towards realization of their right to development and the human rights of their citizens.

Human rights, like the emissions rights created under the carbon market, come into legal existence through state recognition and enforcement. As swiftly as new rights to emit GHGs were created and effected under the Protocol, recognition and protection of *already existing human rights* under international law could have been made an integral part of the articles of the Paris Agreement (and of the Kyoto Protocol before it), thus providing an actionable foundation for a climate regime based on both social and economic justice; unfortunately, human rights are only referenced in a non-binding manner in the Preamble.¹¹⁷

Human rights were initially laid out in the 1948 Universal Declaration of Human Rights (UDHR).¹¹⁸ They are a specific set of claims about “the entitlements of all human beings regardless of ‘race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.’”¹¹⁹ International human rights are enshrined in the 1966 International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESR).¹²⁰ These treaties entered into force in 1976 and are binding on states that have ratified them.¹²¹ The UDHR, the

115. Compared to those social, economic and cultural rights that are still in the “progressive realization” stage, these rights were created in a very short time—during the seven-year Protocol negotiation process. See *History*, KYOTO PROTOCOL, <https://www.mtholyoke.edu/~dano/v20d/site/history.htm> (last visited July 22, 2017) (“The Kyoto Protocol finally came into effect on February 16, 2005, 7 years after it was first negotiated.”).

116. See CARBON MARKET MONITOR - AMERICA TO THE RESCUE: REVIEW OF GLOBAL MARKETS IN 2015 AND OUTLOOK FOR 2016-2018, at 1 (2016), <https://climateobserver.org/wp-content/uploads/2016/01/Carbon-Market-Review-2016.pdf>.

117. Paris Agreement, *supra* note 19, pmbl. (emphasis added) (stating that the “[p]arties *should*, when taking action to address climate change, respect, promote and consider their respective obligations on[, *inter alia*,] human rights”).

118. Humphreys, *supra* note 35, at 8 (citation omitted).

119. *Id.*

120. *Id.*

121. *Id.* at 8–9. See generally *What Is the Difference Between Signing and Ratifying a Treaty?*, DEUTSCHES INSTITUT FÜR MENSCHENRECHTE, <http://www.institut-fuer-menschenrechte.de/en/topics/development/frequently-asked-questions/3-what-does-signature-of-a-treaty-entail-and-what-is-the-difference-to-ratification/> (last visited Jan. 14, 2018).

ICCPR, and the ICESR form the International Bill of Human Rights.¹²² Human rights carry legal authority notwithstanding change in government or state succession.¹²³ They have been said to constitute a “common language of humanity” and, despite their inadequacy in some instances, human rights “are perhaps *all that we have* to interrogate the barbarism of power.”¹²⁴

Recourse to the platform of human rights is frequently seen “in situations where hard legal obligations are unavailable or disputed.”¹²⁵ Human rights “give voice to human suffering,” “make it visible” and try “to ameliorate it.”¹²⁶ Respect towards other human beings as co-equals is “the groundwork of an ethic of human rights, furnishing universally valid norms for human conduct and the basic structure of a just society.”¹²⁷ Human rights discourses “carry the burden of a transformative vision of the world, [in which] the state . . . incrementally become[s] ethical, governance just, and power (in all its hidden habitats) accountable.”¹²⁸ “The UN Human Rights Council has affirmed that climate change ‘poses an immediate and far-reaching threat’ [to] the ‘full enjoyment of human rights.’”¹²⁹ A human rights approach to climate change calls for “non-discrimination, participation, transparency, and accountability”¹³⁰ on the part of all parties to a climate change project or program.

IPCC reports barely mention human rights, and where they do “it is almost exclusively in connection with harms that have already taken place.”¹³¹ For example, the 2005 Inuit petition to the Inter-American Commission on Human Rights, which was brought to the attention of the IPCC, describes how global warming has destroyed sea ice which is “a critical resource” for the Inuit people.¹³² They “use it to travel to hunting and harvesting location[s] and for communication between communities.”¹³³ The petition goes on to state that loss of thickness of the ice has made travel and hunting more dangerous for the Inuit, with more members of the community “falling through the sea ice into the frigid water below” and has also made everyday life for them more “difficult and dangerous.”¹³⁴

122. See HENRY J. STEINER ET AL., *INTERNATIONAL HUMAN RIGHTS IN CONTEXT: LAW, POLITICS, MORALS* 157–58 (2d ed. 2000).

123. See *id.* at 158.

124. UPENDRA BAXI, *THE FUTURE OF HUMAN RIGHTS* 4 (2d ed. 2006).

125. Humphreys, *supra* note 35, at 11.

126. BAXI, *supra* note 124, at 6.

127. *Id.* at 15.

128. *Id.*

129. Marcos Orellana, *Climate Change and the Right to Development: International Cooperation, Financial Arrangements, and the Clean Development Mechanism*, para. 31, U.N. Doc. A/HRC/15/WG.2/TF/CRP.3/Rev.1 (Feb. 10, 2010), http://www.ciel.org/Publications/Climate_Development_Jan10.pdf (quoting Human Rights Council Res. 7/23, U.N. Doc. A/HRC/7/78, at 65 (Mar. 28, 2008), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G08/146/62/PDF/G0814662.pdf?OpenElement>).

130. *Id.* para. 70.

131. Humphreys, *supra* note 35, at 4.

132. Petition to the Inter American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States 2 (Dec. 7, 2005), http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf.

133. *Id.*

134. *Id.*

Some of the international human rights recognized in the American Declaration of the Rights and Duties of Man violated in this case are the right to life, the right to residence and movement, the right to inviolability of the home, the right to the preservation of health and to well-being, the rights to benefits of culture and the right to work and to fair remuneration.¹³⁵ The Commission, while failing to hold in favor of the Inuit, noted that had it done so, it would, however, not been in a position to compel the United States government to comply with the decision, a reality that highlights the need for a supra-national, globally-enforceable human rights regime.

In the absence of such a regime, some activists have proposed that climate change be classified as a crime against humanity.¹³⁶ Another option could be to elevate the right to development as a “meta-right” that would encompass not only climate change, but also all polluting activities, and cover the preservation of the Earth’s biodiversity and the global commons.¹³⁷ Rights to self-determination and sovereign control over natural resources that “protect” nation-states’ choices to exploit fossil fuel development may have to be re-conceptualized because self-determination “cannot be construed as a right against the rest of [the world.]”¹³⁸ Earth’s carbon sinks must be seen as global commons “in the trusteeship of the state in which they are sited for the common benefit of humanity.”¹³⁹

The Inuit case highlights some of the difficulties that arise when seeking remedies for human rights violations arising from climate change. These include problems in establishing extraterritorial responsibility for climate rights violations as they often lie with “diffuse actors, both public and private.”¹⁴⁰ Social and economic rights also have notoriously weak enforcement under international law,¹⁴¹ and because climate change will likely lead to a progressive deterioration of these rights, rights holders will become less resilient.¹⁴² Progressive deterioration of social and economic rights runs counter to the international standard that recognizes states’ rights to *progressively realize* these rights for their citizens.¹⁴³

Conflicts of rights between those harmed by climate change and economic actors responsible for carbon pollution set the stage for an adversarial approach to resolving climate change issues and presents a dichotomy between the formal “hard law” of human rights and the “soft” nature of climate change law, which has evolved through negotiation and compromise.¹⁴⁴ This soft law, nevertheless,

135. *See id.* at 5.

136. *See, e.g.,* Natasha Lennard with Adrian Parr, Opinion, *Our Crime Against the Planet, and Ourselves*, N.Y. TIMES (May 18, 2016), <https://www.nytimes.com/2016/05/18/opinion/our-crime-against-the-planet-and-ourselves.html>.

137. *See* Sam Adelman, *Rethinking Human Rights: The Impact of Climate Change on the Dominant Discourse*, in HUMAN RIGHTS AND CLIMATE CHANGE, *supra* note 36, at 159, 172–75.

138. *Id.* at 179.

139. *Id.*

140. Humphreys, *supra* note 35, at 5.

141. *See generally* Ellen Wiles, *Aspirational Principles or Enforceable Rights? The Future for Socio-Economic Rights in National Law*, 22 AM. U. INT’L L. REV. 35 (2006).

142. Humphreys, *supra* note 35, at 5–6.

143. *Id.* at 6.

144. *See id.* at 6–7.

protects hard economic interests of industrial countries at the expense of “soft human rights” for climate victims, which can be seen in the Inuit example. Human rights are political norms dealing mainly with how people should be treated by their governments and institutions.¹⁴⁵ In the context of climate change, there are also vulnerable states that are looking to the international regime (other states) to treat them with justice in the global political economy, while specific communities within nations would be looking to their own states to protect human rights because human rights “primarily impose obligations on the government of the country in which the person resides or is located.”¹⁴⁶ The market-based approach, as we have seen, however, is one that favors industrial states and institutions over non-industrial states and communities, underpinning the skewed and hierarchical nature of rights creation under international law and how that skew privileges more powerful parties.

Since human rights are much “more concerned with avoiding the worst than with achieving the best,”¹⁴⁷ this leaves space for the economic agenda to trump the rights agenda as climate change is not necessarily seen as a catastrophic situation for much of the present generation. Infringements of climate rights of the vulnerable and the poor are not viewed as “matters of ‘paramount importance’” and a “‘grave affront to justice’”¹⁴⁸ by the current status quo, which has chosen to cash in on carbon through an offset approach rather than institute mechanisms that will accelerate the decarbonization of the global economy.¹⁴⁹

Without an enforcement mechanism at the international level to compel states and corporations to reduce greenhouse gas emissions and protect the climate rights of the world’s citizens, the most that vulnerable states and communities can do is invoke—but not realize—both their right to exist and their right to freedom from significant environmental harm. Additionally, they attempt to demand reduction of greenhouse gas emissions by parties that are responsible for climate change.¹⁵⁰ Such invocation, however, leaves human rights in the aspirational realm, leading duty bearers to argue that they are “not real rights”¹⁵¹ and can therefore be ignored. Nonetheless, inclusion of human rights and the right to development in the Paris Agreement, together with the creation of the SDM through which developing countries can also trade in the carbon market, are signs of hope that the international community can find the will to create an equitable climate regime that

145. See generally James Nickel, *Human Rights*, STAN. ENCYCLOPEDIA PHIL. (Feb. 7, 2003, substantively revised Nov. 8, 2014), <http://plato.stanford.edu/entries/rights-human/> (defining human rights).

146. O.P. DHIMAN, UNDERSTANDING HUMAN RIGHTS 49 (2011).

147. Nickel, *supra* note 145.

148. *Id.* (quoting Maurice Cranston, *Human Rights, Real and Supposed*, in *POLITICAL THEORY AND THE RIGHTS OF MAN* (D. D. Raphael ed., 1967)).

149. See generally Eric A. Posner & Cass R. Sunstein, *Climate Change Justice*, 96 GEO. L.J. 1565 (2008) (explaining that climate justice for the poor and vulnerable belongs to the realm of welfare, through which these groups can find assistance from philanthropic acts by the wealthy. Structural causes of poverty and vulnerability, however, are unchanged by such an approach).

150. Dinah Shelton, *Equitable Utilization of the Atmosphere: A Rights-Based Approach to Climate Change?*, in *HUMAN RIGHTS AND CLIMATE CHANGE*, *supra* note 36, at 91, 124–25.

151. Nickel, *supra* note 145.

protects not only the environment but also promotes sustainable development for all member states.

While it is not clear how the SDM will be operationalized, its name suggests a move away from a purely market-based rationale for climate change mitigation to one of environmental sustainability. Much will depend, however, on the operational principles of this new mechanism. The Paris Agreement calls for voluntary nationally determined contributions (NDCs) of greenhouse gas reductions by all member parties.¹⁵² Through the SDM, developing countries can also participate in global carbon trading¹⁵³ since they, too, are called upon to set emissions reductions goals.¹⁵⁴ As shown in the Honduras and Kenya examples cited in Section 3, operationalization of the climate regime's mechanisms can result in human rights violations, highlighting the need for states to ensure protection of these rights.¹⁵⁵ The Paris Agreement's reference to human rights,¹⁵⁶ despite its non-binding nature, is an important step towards legal recognition by states of their responsibility to protect those rights in climate change programs that are implemented in their jurisdictions. The Paris Agreement is the first multilateral environmental treaty to mention human rights.¹⁵⁷ It can therefore be anticipated that there will be greater scrutiny of human rights in the coming years of the climate regime since the previous regime (the Protocol) made no mention of rights for victims of climate change and climate projects.¹⁵⁸ Articles 9, 10 and 11 of the Paris Agreement place a duty on industrial states to assist developing states with economic, technological, and skills transfer that will increase developing states' resilience to climate change.¹⁵⁹ Duty bearers also have an obligation to make reparations for injuries suffered by victims of climate change and climate projects.

If, however, the SDM is operationalized from a neoliberal premise, existing concerns will remain. These concerns include: (1) growing economic inequality, wherein the rich get richer and the poor becoming more marginalized; (2) a focus on making short-run money out of a looming environmental disaster, which can obscure efforts to tackle the long-term problem of climate change and economic reform; and (3) failure to effectively deal with the threat of climate change in this generation, which would be irresponsible to future generations; and

152. Paris Agreement, *supra* note 18, art. 3.

153. *Id.* art. 6.4.; see also Catie Davis (catie), *The Sustainable Development Mechanism AKA the New Carbon Market Mechanism*, SUBSTANTIAL & SUSTAINED: COP23/ CMP13 OBSERVER DELEGATION BLOG (Dec. 11, 2015), <http://vlscop.vermontlaw.edu/2015/12/11/the-sustainable-development-mechanism-aka-the-new-carbon-market-mechanism/>.

154. Paris Agreement, *supra* note 18, art. 6.4.

155. For references that provide examples in addition to those of Honduras and Kenya, see UNITED NATIONS ENV'T PROGRAMME (UNEP), CLIMATE CHANGE AND HUMAN RIGHTS 7 n.44, 8 nn.45 & 47–49, 10 n.50 (2015), http://web.law.columbia.edu/sites/default/files/microsites/climate-change/climate_change_and_human_rights.pdf.

156. Paris Agreement, *supra* note 18, pmb1.

157. *Human Rights in the Paris Agreement*, HUM. RTS. & CLIMATE CHANGE WORKING GROUP, <http://climaterights.org/our-work/unfccc/road-to-paris-cop21-protect-human-rights-in-climate-action/>.

158. See Dinah Shelton, *Human Rights and Climate Change*, 3–9 (Buffett Ctr. for Int'l & Comparative Studies, Working Paper No. 09-002, 2009), http://buffett.northwestern.edu/documents/working-papers/Buffett_09-002_Shelton.pdf.

159. See Paris Agreement, *supra* note 18, arts. 9–11.

4) the perennial problem of international law, which is the lack of a supra-national enforcement body that can ensure that states meet their climate commitments and protect human rights.

The contest between human rights and economic interests also faces other challenges. First, the human rights platform has limitations in the context of climate change. Second, the realization of human rights requires responsiveness from the state, which, when faced with a choice between promoting economic interests or advancing human rights, tends to choose the former. Third, the realization of human rights has historically been tied to the existence of an economic foundation that can support those rights and many developing countries lack such a foundation. Finally, for a climate justice platform to succeed, a broader basis for state responsiveness beyond the narrow, limited focus on rights may be required, one that more fully responds to the human dimension of the rights discourse. While such a basis has not yet taken hold in law, scholars are beginning to push jurisprudential boundaries by drawing on the concept of human vulnerability.¹⁶⁰

If high emitters fail to commit to and meet sufficient emissions reduction targets under the Paris Agreement, they will further aggravate global inequality by effectively denying non-industrial nations the larger emissions caps that would be available for their industrialization.¹⁶¹ This could potentially be mitigated by broadening the RTE under the SDM.

V. CONCLUSIONS

Climate change is already disrupting human rights of less resilient populations in both developed and developing countries. While the Paris Agreement's recognition of human rights is significant, protection and realization of human rights within a free-market based approach to climate mitigation is a challenge. This article examines drawbacks of market-based approaches to climate change and argues for allocation of carbon investment rights (CIR) for developing countries.

On the human rights front, climate change and climate projects are already resulting in rights violations for the less resilient and powerful, as evidenced by the Bajo Aguán project in Honduras and the Olkaria Geothermal project in Kenya. However, a human rights platform, on its own, is limited in the extent to which it can bring about climate justice. The diffuse nature of the public and private actors responsible for climate change makes the enforcement of climate rights claims a challenge. For developing countries that currently serve primarily as sources of cheap emissions credits for industrial states, their goal of realizing their right to development remains a distant aspiration in the current global status quo where they are supporting increased wealth accumulation in the carbon market benefiting the duty bearers of climate change.

Premised on human rights alone, the climate justice agenda may be standing on too narrow a platform to turn the tide away from carbon-based financial profiteering to sustainable development based on equity and social justice.

160. See Martha Albertson Fineman, *The Vulnerable Subject and the Responsive State*, 60 EMORY L.J. 251 (2010).

161. Cf. Cullett, *supra* note 61, at 191.

Climate justice advocates will need to draw on additional norms and standards, such as accountability and social responsibility from both public and private actors in their efforts to expand the platform from which an equitable global climate regime can be operationalized.

Fairly priced carbon instruments that recognize the contribution that developing countries are making to atmospheric balance and climate change mitigation through their environmental protection efforts, such as forest account units (FAU) and biodiversity account units (BAU) are some practical ways in which equity can be brought to the distribution of economic assets being created in the climate regime. Access to these assets will provide developing countries with new resources that they can utilize for the protection and realization of the human right to a stable and predictable climate that their citizens depend on.