

HEINONLINE

Citation: 85 Denv. U. L. Rev. 841 2007-2008

Content downloaded/printed from
HeinOnline (<http://heinonline.org>)
Fri Nov 2 13:34:48 2012

- Your use of this HeinOnline PDF indicates your acceptance of HeinOnline's Terms and Conditions of the license agreement available at <http://heinonline.org/HOL/License>
- The search text of this PDF is generated from uncorrected OCR text.
- To obtain permission to use this article beyond the scope of your HeinOnline license, please use:

[https://www.copyright.com/ccc/basicSearch.do?
&operation=go&searchType=0
&lastSearch=simple&all=on&titleOrStdNo=0883-9409](https://www.copyright.com/ccc/basicSearch.do?&operation=go&searchType=0&lastSearch=simple&all=on&titleOrStdNo=0883-9409)

GLOBAL RESPONSE TO CLIMATE CHANGE— FROM STOCKHOLM TO COPENHAGEN

ANITA M. HALVORSSEN[†]

INTRODUCTION

The anthropogenic effect on the climate system demands that strong action be taken now to avoid the worst impacts.¹ The tipping point before the onset of catastrophe is no longer decades away.² This is a global problem that calls for international cooperation on a scale comparable to the Marshall Plan after World War II to “reshape the world’s future economy and redirect investment flows into a sustainable future” as Yvo de Boer, the Executive Director of the United Nations Framework Convention on Climate Change (UNFCCC) has stated the case.³ The international community has produced the legal tools for dealing with the problem in the form of the UNFCCC⁴ and the Kyoto Protocol to the UNFCCC (Kyoto Protocol),⁵ yet these need to be amended to take into

[†] Adjunct Professor, University of Denver, College of Law; Lecturer, University of Colorado, Political Science Department; Director, Global Legal Solutions, LLC (e-mail: amhalvorss@aol.com). This article is based on a presentation given at the *Denver University Law Review* Symposium, Climate Change: Integrating Environmental Justice into Policy, Regulation, and Litigation, February 15, 2008.

1. NICHOLAS STERN, *Summary of Conclusions, in STERN REVIEW: THE ECONOMICS OF CLIMATE CHANGE* vi (2007), available at http://www.hm-treasury.gov.uk/media/3/2/Summary_of_Conclusions.pdf [hereinafter STERN REVIEW: SUMMARY OF CONCLUSIONS].

2. See Jeremy Lovell, *Interview—The World Has Under Decade to Act on Climate Crisis*, REUTERS NEWS SERVICE, Nov. 22, 2006, available at <http://www.planetark.com/dailynewsstory.cfm/newsid/39096/story.htm>; see also Juliet Eilperin, *Debate on Climate Shifts to Issue of Irreparable Change*, WASH. POST, Jan. 29, 2006, at A1, available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/01/28/AR20060128012801021.html>; Ian Sample, *Warming Hits Tipping Point*, THE GUARDIAN, Aug. 11, 2005, available at <http://www.guardian.co.uk/climatechange/story/0,12374,1546824,00.html>.

3. Press Release, UNFCCC Secretariat, Latin American and Caribbean Countries to Play Key Role in Global Fight Against Climate Change (Feb. 1, 2008), available at http://unfccc.int/files/press/releases/application/pdf/20080201_santo_domingo_release_eng.pdf; see also UN News Service, *Joint Attack on Climate Change and Poverty Needed, Al Gore Tells Audience at UN* (Sept. 24, 2007), <http://www.un.org/apps/news/story.asp?NewsID=23942&Cr=climate&Cr1=change#>.

4. United Nations Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849 (1994) [hereinafter UNFCCC]. The UNFCCC has near universal participation with 192 Parties as of August 22, 2007. See United Nations Framework Convention on Climate Change: *Status of Ratification*, http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php (last visited Mar. 28, 2008).

5. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22 (2007) [hereinafter Kyoto Protocol]. As of January 15, 2008, there were 178 Parties to the Kyoto Protocol; see also Kyoto Protocol to the United Nations Framework Convention on Climate Change: *Status of Ratification*, http://unfccc.int/files/kyoto_protocol/background/status_of_ratification/application/pdf/kp_ratification.pdf (last visited Mar. 28, 2008) [hereinafter Status of Kyoto Protocol].

account the current status of the climate science and the international political situation.⁶

At the thirteenth Conference of the Parties to the UNFCCC (COP-13) in Bali in 2007, the international community recognized the seriousness of the climate change situation as stipulated in the Intergovernmental Panel on Climate Change's (IPCC) latest report by referring directly to the IPCC's Fourth Assessment Report in the Bali Action Plan, which stated that "warming of the climate system is unequivocal, and that delay in reducing emissions significantly constrains opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts."⁷ Now there is no longer any excuse for not taking urgent action.⁸ The international community must be able to "deliver as one" if we are to have any chance in humanity's "war" against global climate change. However, as is usual in international law, multilateral cooperation takes time. All that was agreed to in Bali was an agenda, not a substantive agreement on the amounts of greenhouse gas (GHG) emissions that need to be reduced nor which particular states are to take these actions.⁹ Reaching "an agreed outcome" and adopting a decision nearly two years from now, in Copenhagen in 2009, does not exemplify a leap to action considering the seriousness of the climate change problem. Yet, this was considered a success, mainly due to all the disagreements that have plagued the last few meetings.¹⁰

Among the many problems that need to be resolved, two deal with important equity issues that have plagued the climate change negotiations for a number of years. One problem is that the United States is not willing to commit to mandatory cuts in GHGs, and hence has not ratified the Kyoto Protocol. The other problem, closely related to the first, is that the emerging economies, the fast-growing developing countries such as India and China, do not have any mandatory cuts in the Kyoto Protocol,

6. This article is, in part, based on an earlier article amending only the Kyoto Protocol. See Anita M. Halvorssen, *Common, but Differentiated Commitments in the Future Climate Change Regime—Amending the Kyoto Protocol to Include Annex C and the Annex C Mitigation Fund*, 18 COLO. J. INT'L ENVTL. L. & POL'Y 247 (2007).

7. The text in Decision -/CP.13 is "[r]esponding to the findings of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change . . ." See United Nations Framework Convention on Climate Change, Bali Action Plan, Decision -/CP.13, at 1 (Dec. 15, 2007), available at http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf (last visited Mar. 28, 2008) [hereinafter Bali Action Plan]; see also Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, Summary for Policymakers (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf [hereinafter IPCC's AR4].

8. See Bali Action Plan, *supra* note 7, at 1 ("Recognizing . . . and emphasizing the urgency to address climate change as indicated in the Fourth Assessment Report . . .").

9. See generally Robert N. Stavins & Joseph Aldy, Harvard Project on International Climate Agreements, Bali Climate Change Conference: Key Takeaways (Dec. 18, 2007), available at http://belfercenter.ksg.harvard.edu/publication/17781/bali_climate_change_conference.html (giving an overview of the Bali Climate Change Conference).

10. See Thomas Fuller & Andrew C. Revkin, *Climate Plan Looks Beyond Bush's Tenure*, N.Y. TIMES, Dec. 16, 2007, at 1, available at <http://www.nytimes.com/2007/12/16/world/16climate.html>.

even if they are Parties to the Protocol. These major economies will soon overtake the industrialized countries in amounts of GHG emissions.

In order to solve these two problems, this article posits amending the UNFCCC to include a new category of Parties—Annex III Parties—defined as emerging economies (the fast-growing developing countries). These countries will be able to commit to mitigation measures/emission cuts under a new Annex C of the Kyoto Protocol in return for financial and technological assistance provided by a new Annex C Mitigation Fund. Then, perhaps, the United States will feel compelled to ratify the Kyoto Protocol and comply with its stipulated reduction targets under Annex B of the Kyoto Protocol, allowing for a unified approach against global climate change. In order to make the Annex C Mitigation Fund more effective, this article also suggests that the Fund include a set of capacity-building teams, the Climate Change Corps (3Cs), as a special corps of volunteer engineers and climate scientists among others that would be set up by individual Annex I nations coordinated by the United Nations Development Programme (UNDP) in order to make sure these capacity-building teams are sent to the fast-growing developing countries that need them most urgently.

Part I of this article will give an overview of the status of the climate science and its impacts based on the IPCC's Fourth Assessment Report, since this has a bearing on the equity issues. The relationship between climate change and sustainable development, examined in Part II, will specifically address the equity principle of common, but differentiated responsibilities. Part III will analyze the roadmap and outcome of the international climate change negotiations at the Bali Conference. In Part IV, this article will examine the extent to which the amendments suggested to the UNFCCC and the Kyoto Protocol address the main barriers to having an all inclusive agreement to address the scourge of climate change.

I. OVERVIEW OF THE STATUS OF CLIMATE CHANGE AND ITS IMPACTS

The IPCC Fourth Assessment Report is a collaborative effort by hundreds of scientists from around the world assessing the current scientific knowledge about climate change.¹¹ In this Part, I will briefly present the IPCC and the findings of its reports, with the main focus being on the impacts, showing how they will affect developing countries disproportionately.

The IPCC was established in 1988 as an intergovernmental body by the World Meteorological Organization and the United Nations Environment Programme.¹² Its primary function is to provide decision-

11. Intergovernmental Panel on Climate Change, About IPCC, <http://www.ipcc.ch/about/index.htm> (last visited Mar. 28, 2008).

12. *Id.*

makers with an objective source of information about climate change by assessing “on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation.”¹³

The IPCC has three main groups which each produce a report: Working Group I, which produces the report on the Physical Science Basis of Climate Change; Working Group II, which focuses on Impacts, Adaptation and Vulnerability; and Working Group III, which focuses on Mitigation.¹⁴ In addition, the IPCC produces the Synthesis Report and other Special Reports.¹⁵ Final reports are accepted at a Plenary Session of the IPCC and the Summaries for Policymakers are approved line by line.¹⁶ The last steps in the procedure include a consensus by the international community.¹⁷

Working Group I of the IPCC’s Fourth Assessment Report, which addresses the scientific basis of climate change, emphasized that “warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.”¹⁸ The report states that “global increases in carbon dioxide concentration are due primarily to fossil fuel use and land use change, while those of methane and nitrous oxide are primarily due to agriculture.”¹⁹ The report also states that the “atmospheric concentration of carbon dioxide in 2005 exceeds by far the natural range over the last 650,000 years.”²⁰ With greater scientific understanding since the Third Assessment Report, there is now “very high confidence that the global average net effect of human

13. *Id.*

14. Intergovernmental Panel on Climate Change, About the IPCC, How the IPCC Is Organized, <http://www.ipcc.ch/about/how-the-ipcc-is-organized.htm> (last visited Mar. 28, 2008); *see also* Intergovernmental Panel on Climate Change, About the IPCC, The IPCC Working Group I, <http://www.ipcc.ch/about/working-group1.htm> (last visited Mar. 28, 2008); Intergovernmental Panel on Climate Change, About the IPCC, The IPCC Working Group II, <http://www.ipcc.ch/about/working-group2.htm> (last visited Mar. 28, 2008); Intergovernmental Panel on Climate Change, About the IPCC, The IPCC Working Group III, <http://www.ipcc.ch/about/working-group3.htm> (last visited Mar. 28, 2008).

15. Intergovernmental Panel on Climate Change, IPCC Reports, <http://www.ipcc.ch/ipccreports/index.htm> (last visited Mar. 28, 2008).

16. Intergovernmental Panel on Climate Change, *Sixteen Years of Scientific Assessment in Support of the UNFCCC 4*, available at <http://www.ipcc.ch/pdf/10th-anniversary/anniversary-brochure.pdf>.

17. Intergovernmental Panel on Climate Change, Principles Governing IPCC Work 2, available at <http://www.ipcc.ch/pdf/ipcc-principles/ipcc-principles.pdf>.

18. WORKING GROUP I, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC FOURTH ASSESSMENT REPORT, SUMMARY FOR POLICYMAKERS 5, available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf> [hereinafter WORKING GROUP I REPORT].

19. *Id.* at 2.

20. *Id.*

activities since 1750 has been one of warming”²¹ The report notes that “numerous long-term changes in climate,” such as “changes in arctic temperatures and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts” have been observed.²² The IPCC also states that the observed increases in average global temperatures since the 1950s are “very likely” due to the observed increase in human-induced GHG concentrations.²³

Working Group II’s report on impacts, adaptation, and vulnerability states that “[o]bservational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases.”²⁴ Examples include increased numbers of glacial lakes, ground instability in permafrost, and changes in some Arctic and Antarctic ecosystems.²⁵ The extent of drought-affected areas is likely to increase.²⁶ At lower latitudes, crop productivity is projected to decrease, leading to risk of hunger.²⁷ In Africa, 75-250 million people are expected to be exposed to an increase of water stress due to climate change by 2020.²⁸ The report also states that new studies confirm that Africa is one of the most vulnerable continents to climate variability and change, due to its many stresses and low ability to adapt.²⁹ The report further details that climate change will hamper sustainable development for most developing countries in Asia as it increases the pressures on natural resources and the environment in conjunction with rapid urbanization, industrialization, and economic development.³⁰

Working Group II of the IPCC also addresses adaptation and vulnerability to climate change. In that context, the report explains that the future vulnerability to climate impacts is not only due to projected climate change, but also projected social and economic changes.³¹ Other stresses exacerbate the vulnerability to climate change, such as poverty, unequal access to resources, food insecurity and incidence of disease (HIV/AIDS).³² The projected number of people affected by climate change is greater in areas with low per capita income and large popula-

21. *Id.* at 3. “Very high confidence” means “at least a 9 out of 10 chance of being correct.” *See id.* n.7.

22. *Id.* at 7.

23. *See id.* at 8. “Very likely” means more than 90 percent likely. *See id.* at 3, n.6.

24. WORKING GROUP II, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC FOURTH ASSESSMENT REPORT, SUMMARY FOR POLICYMAKERS 8, <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf> [hereinafter WORKING GROUP II REPORT].

25. *Id.*

26. *Id.* at 11.

27. *Id.*

28. *Id.* at 13.

29. *Id.*

30. *Id.*

31. *Id.* at 19.

32. *Id.*

tion growth, indicating that these areas are more vulnerable.³³ By increasing resilience and adaptive capacity, sustainable development can reduce vulnerability to climate change.³⁴ On the other hand, Working Group II states that climate change can delay the pace of progress toward sustainable development, either directly, through an increase in exposure to adverse impacts, or indirectly, due to erosion of the capacity to adapt.³⁵

II. THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT

A. Sustainable Development

Sustainable development is most commonly defined according to the Brundtland Commission's Report as "development that meets the needs of the present without compromising the needs of future generations."³⁶ The need for balancing environmental and economic policies was first addressed in an international setting at the U.N. Conference on the Human Environment, held in Stockholm in 1972.³⁷ Since then the international community has met at the U.N. Conference on Environment and Development, held in Rio de Janeiro in 1992, the Millennium Summit in New York City in 2000, and the World Summit on Sustainable Development, held in Johannesburg in 2002, to further highlight the importance of these issues and to take action.³⁸ Sustainable development is said to encompass three pillars: environmental, economic, and social aspects of development.³⁹ Climate change is a matter affecting these very same issues. In order to tackle climate change, the goal of sustainable development must be attained at a much faster pace, since economic growth produces the funding to mitigate and adapt to climate change. If this is not done, the impacts of climate change will destroy most of the progress made toward sustainable development. In the same way, economic growth that is not de-coupled from fossil fuel as an energy source will only lead to more GHG emissions. Just as was done in the case of the depletion of the stratospheric ozone layer, where developing countries were not ratifying the Montreal Protocol on Substances that Deplete the Ozone Layer until they were offered a delayed compliance schedule

33. *Id.* at 20.

34. *Id.*

35. *Id.*

36. See WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, OUR COMMON FUTURE 8 (1987) [hereinafter OUR COMMON FUTURE].

37. Philippe Roch & Franz Xaver Perrez, *International Environmental Governance: The Strive Towards a Comprehensive, Coherent, Effective and Efficient International Environmental Regime*, 16 COLO. J. INT'L ENVTL. L. & POL'Y 1, 7 (2005).

38. *Id.* at 9; Paolo Galizzi, *From Stockholm to New York, Via Rio and Johannesburg: Has the Environment Lost Its Way on the Global Agenda?*, 29 FORDHAM INT'L L.J. 952, 980, 988 (2006).

39. World Summit on Sustainable Development, Johannesburg, S. Afr., Aug. 26-Sept. 4, 2002, *Report of the World Summit on Sustainable Development*, 1, U.N. Doc A/CONF.199/20, available at http://www.unctad.org/en/docs/aconf199d20&c1_en.pdf.

and a specific funding mechanism,⁴⁰ we need to find solutions to the issue of climate change by crafting equitable bargains regarding economic and environmental issues between developed and developing countries. In the case of the Kyoto Protocol the fast-growing developing countries are Parties to the Kyoto Protocol, but they do not have any binding reduction commitments.

B. Equity—Common, but Differentiated Responsibilities

Addressing global environmental problems, in general, using treaties that require universal participation requires developed *and* developing countries to take on obligations. Under international law, countries have accepted the principle of sovereignty to include sovereign equality as reflected in the U.N. Charter, thereby giving all countries equal rights and obligations on the international plane.⁴¹ Yet, to encourage universal participation and reflect the principle of equity in international law, these environmental treaties must provide differentiated responsibilities for developing countries. This is because developing countries historically have not had the same economic growth and social benefits as developed countries, and they have contributed to a lesser degree to the environmental problems.⁴² This historical context, along with the developing countries' lack of capacity to address the environmental problems, has led to the idea of asymmetrical or differential rights and obligations for developing countries in international environmental law.⁴³

The problem of the depletion of the stratospheric ozone layer was the first environmental problem regarding the atmosphere that was tackled on a global scale using differential treatment for developing countries.⁴⁴ In many ways, it was an easier problem to solve than climate change, since there were just a few manufacturers of ozone-depleting substances, as opposed to all consumers of fossil fuels, from utilities to school buses, being emitters of CO₂. Once they manufactured a substitute for chlorofluorocarbons (CFCs), an ozone depleting substance, the manufacturers were willing to produce it. Most of the countries that were big producers and consumers of CFCs ratified the Vienna Convention for the Protection of the Ozone Layer, followed by the Montreal Protocol on Substances that Deplete the Ozone Layer.⁴⁵ In the Montreal Protocol, the negotiating countries adopted an approach whereby all

40. See Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. Treaty Doc. No. 100-10, 1522 U.N.T.S. 3 [hereinafter Montreal Protocol].

41. U.N. Charter art. 2, para. 1 ("The Organization is based on the principle of the sovereign equality of all of its Members.")

42. ANITA MARGRETHE HALVORSSSEN, EQUALITY AMONG UNEQUALS IN INTERNATIONAL ENVIRONMENTAL LAW: DIFFERENTIAL TREATMENT FOR DEVELOPING COUNTRIES 28-31 (1999).

43. *Id.* at 31.

44. See Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331, available at http://www.oas.org/DIL/Vienna_Convention_on_the_Law_of_Treaties.pdf [hereinafter Vienna Convention]; Montreal Protocol, *supra* note 40.

45. See Vienna Convention, *supra* note 44; Montreal Protocol, *supra* note 40.

countries were to take action, but developing countries were to have a delayed compliance schedule.⁴⁶ Shortly thereafter, the Montreal Protocol was amended to include a multilateral fund to facilitate the replacement of technology using CFCs in developing countries, thereby persuading India and China to become Parties to the Protocol.⁴⁷

Historically, developing countries have had different developmental, social, and environmental needs and priorities and have not had the same economic benefits as the developed countries that have degraded the global environment in their process of industrialization. However, the picture in China and India is changing rapidly, since those countries are growing exponentially and experiencing immense environmental problems that need to be dealt with.⁴⁸ Yet, they are much more aware of environmental degradation than were the developed countries when they began industrializing, and to a certain extent, they are addressing their environmental problems using new, "cleaner" technology.⁴⁹ However, this is at a much too slow pace, mostly due to a lack of funding.

Even in this context, it is not equitable to demand that these developing countries have an equal share of the burdens of controlling GHG emissions when, until recently, they have not done most of the polluting.⁵⁰ This is because economic growth is still the primary strategy for eradicating poverty and should not be prohibitively restricted through the use of environmental controls.⁵¹ Due to this principle of equity, asymmetrical or differentiated obligations for developed and developing countries have become the norm in international environmental treaties.⁵² This equity principle is now often called "common, but differentiated responsibility" (CBDR) and is expressed in Rio Declaration Principle 7:

46. See Montreal Protocol, *supra* note 40, at art. 5.

47. U.N. Env't Programme, Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, *Report of the Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer*, U.N. Doc. UNEP/OzL.Pro.2/3 (June 29, 1990), available at <http://www.unep.ch/ozone/2mlonfin.shtml>.

48. See *China Admits to Climate Failings*, BBC NEWS, Jan. 27, 2007, available at <http://news.bbc.co.uk/2/hi/asia-pacific/6306881.stm>.

49. See NATIONAL DEVELOPMENT AND REFORM COMMISSION, PEOPLE'S REPUBLIC OF CHINA, CHINA'S NATIONAL CLIMATE CHANGE PROGRAMME 31-32 (2007), available at <http://www.pewclimate.org/docUploads/ChinaNationalClimateChangeProgramme%20June%2007.pdf>.

50. Once CO₂ is emitted to the atmosphere, it remains there for at least a century. Hence, we are now seeing the effects of GHGs emitted since the industrial revolution. This constitutes, for the most part, pollution from developed countries, not developing countries. University Corporation for Atmospheric Research, *Understanding Climate Change, Global Warming, Frequently Asked Questions, The Greenhouse Effect*, <http://www.ucar.edu/news/features/climatechange/faqs.jsp> (last visited Mar. 28, 2008).

51. See OUR COMMON FUTURE, *supra* note 36, at 50-51; see also U.N. Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, princ. 11, U.N. Doc. A/CONF.151/26 (Vol. 1) (Aug. 12, 1992) [hereinafter *Rio Declaration*].

52. See Yoshiru Matsui, *Aspects of the Principle of "Common but Differentiated Responsibilities,"* in 2 INTERNATIONAL ENVIRONMENTAL AGREEMENTS: POLITICS, LAW AND ECONOMICS 151, 166 (2002).

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.⁵³

Despite the fact that the CBDR principle is not considered binding international law, it has become a cornerstone of burden-sharing structures adopted in international environmental treaties.⁵⁴ In the context of climate change, developed countries have historically contributed the most to the climate change problem and have the greater technological and economic capacity to address the problem,⁵⁵ whereas developing countries have not significantly contributed to climate change and are more vulnerable to its impacts because they lack the resources to address the problem. As a result, developed countries should take more responsibility for controlling GHG emissions.

The CBDR principle can also be seen as requiring obligations of solidarity assistance in the form of technology transfer and financial assistance.⁵⁶ To do this, developing countries would make the implementation of their commitments in environmental treaties conditional on the receipt of assistance from developed countries.⁵⁷ The UNFCCC already reflects this theory: "the extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology."⁵⁸

The CBDR principle does have its limits, however. First, it is only meant to last for a limited time period to allow the developing countries to achieve the same level of economic growth as industrialized countries, while simultaneously addressing environmental issues.⁵⁹ It is not supposed to institute a permanent arrangement. Once the differences between the countries cease to exist, differential treatment should no longer be used.⁶⁰ Second, the CBDR principle should not be incompatible with

53. *Rio Declaration*, *supra* note 51, at princ. 7.

54. Christopher D. Stone, *Common but Differentiated Responsibilities in International Law*, 98 AM. J. INT'L L. 276, 299-300 (2004); *see also* LAVANYA RAJAMANI, DIFFERENTIAL TREATMENT IN INTERNATIONAL ENVIRONMENTAL LAW 127, 158 (2006).

55. PATRICIA W. BIRNIE & ALAN E. BOYLE, INTERNATIONAL LAW & THE ENVIRONMENT 101 (2d ed. 2002).

56. *Id.* at 102.

57. *Id.*

58. UNFCCC, *supra* note 4, art. 4(7). This commitment is reaffirmed in Articles 10 and 11 of the Kyoto Protocol. *See* Kyoto Protocol, *supra* note 5, arts. 10(b)-(e), 11.

59. HALVORSSSEN, *supra* note 42, at 4, 29.

60. RAJAMANI, *supra* note 54, at 162.

the object and purpose of the treaty in question.⁶¹ If implementation of the CDR principle defeats the object and purpose of the treaty, it has gone beyond the limits of the treaty.⁶² For example, the object and purpose of the UNFCCC is “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁶³ This objective would be defeated if the developing countries’ emissions of GHGs continue to grow to meet their development needs, leading to dangerous anthropogenic interference with the climate system. Thus, sustainable development requires that economic growth in *all* countries is balanced with the climate change objectives.

C. Equity and Climate Change—The United States and the Fast-Growing Developing Countries

In regards to climate change, the first equity problem is that the United States has not agreed to mandatory emission cuts and hence has not ratified the Kyoto Protocol. The stage was already set with a unanimous vote in the U.S. Senate in 1997, in which the Senate stated that it would not give its “advice and consent” to the Kyoto Protocol unless it included commitments to limit GHGs for developing countries and that the Protocol did not result in serious harm to the U.S. economy.⁶⁴ The Senate was concerned that the U.S. would be less competitive than major economies such as India and China if it ratified the Kyoto Protocol because these countries do not have any binding reduction commitments under the Protocol.⁶⁵

In November 2008, the United States is electing a new President. No matter who she or he is, the future President will likely take climate change more seriously than President Bush. The three top contenders for the presidential race all call for mandatory cuts in carbon dioxide emissions, support a market-based approach that would set caps on carbon and other greenhouse gas emissions, and provide industries with tradable credits.⁶⁶ It would be convenient if the problem regarding the U.S. could be solved as easily as was the case of Australia, where a new government came into power in December 2007 and as his first official act, Prime

61. HALVORSSSEN, *supra* note 42, at 29.

62. RAJAMANI, *supra* note 54, at 162.

63. UNFCCC, *supra* note 4, art. 2.

64. *See* Expressing the Sense of the Senate Regarding the Conditions for the United States Becoming a Signatory to Any International Agreement on Greenhouse Gas Emissions Under the United Nations Framework Convention on Climate Change, S. Res. 98, 105th Cong. (1997) (Byrd-Hagel Resolution).

65. *See id.*

66. American Association for the Advancement of Science, Science and Technology in the 2008 Presidential Election: Candidate Science & Technology Positions, <http://election2008.aas.org/comparisons/> (last visited Mar. 28, 2008) (click on each candidate’s name; scroll down to the “Energy and Environment” section on web page).

Minister Rudd took the steps needed to ratify the Kyoto Protocol.⁶⁷ However, the new President will still need the “advice and consent of the Senate” before the instrument of ratification for the Kyoto Protocol can be signed.

The United States is the only Annex I Party (industrialized country) not to have ratified the Kyoto Protocol, though it has ratified the UNFCCC.⁶⁸ There are only 17 other states that are not Parties to the Kyoto Protocol, which currently has 177 Parties.⁶⁹ On April 23, 2008, only 16 Parties will not have ratified the Kyoto Protocol, as Iraq ratified it in January.⁷⁰ It seems rather unfortunate that the international community is supposed to draft a new agreement because the one remaining Annex I Party does not want to cooperate with most all of the international community which has agreed to, and worked diligently to operationalize, the Kyoto Protocol. That is not to say the Kyoto Protocol is perfect; it needs major improvements. Yet to set it aside is perhaps a bad idea at this urgent stage of climate change. Amending it seems a more viable option, taking into account all the structures, procedures and entities already set up in accordance with the Protocol. Amending the UNFCCC to add Annex III, thus arranging for fast-growing developing countries to have binding commitments under a new Annex C of the Kyoto Protocol, would save an enormous amount of time. The Kyoto Protocol is already structured in such a way that the industrialized countries, Annex I Parties, are to be subjected to more stringent commitments under Annex B of the Protocol for the subsequent commitment periods using its own amendment procedure.⁷¹ Clearly a five percent average decrease in GHGs emissions stipulated for the first commitment period of the Protocol would not be enough to tackle climate change.⁷²

The second problem, a related equity issue, concerns the fact that the fast-growing developing countries, such as China, India, and Brazil, do not have mandatory reduction commitments under the Kyoto Protocol. They are Parties to the Kyoto Protocol, but the Protocol only stipulates emission targets for Annex I Parties (industrialized states). How can one require developing countries that historically have not contrib-

67. *Getting Serious in Bali: Talks on Tackling Climate Change Begin*, ECONOMIST, Dec. 3, 2007, available at http://www.economist.com/world/international/displaystory.cfm?story_id=10237931.

68. See Status of Kyoto Protocol, *supra* note 5, at 7. The Principality of Andorra and San Marino are considered to be developed States, but they are not listed as Annex I Parties in the UNFCCC. See UNFCCC, *supra* note 4, annex 1 (listing all developed countries but not including Andorra or San Marino).

69. UNFCC, Fact Sheet: The Kyoto Protocol, http://unfccc.int/files/press/backgrounders/application/pdf/fact_sheet_the_kyoto_protocol.pdf (last visited Mar. 28, 2008).

70. See *Iraq Ratifies Kyoto Protocol on Climate Change*, MIDDLE EAST TIMES, Jan. 26, 2008, available at http://www.metimes.com/Politics/2008/01/26/iraq_ratifies_kyoto_protocol_on_climate_change/afp/.

71. See Kyoto Protocol, *supra* note 5, art. 3(9).

72. See *id.* art. 3(1).

uted to global warming and are the most vulnerable to climate change, in addition to having the least capability or financial resources to deal with it, to also cut emissions on par with developed countries? This question becomes even more poignant when taking into account that the U.S. does not have any mandatory cuts because it did not ratify the Protocol.

D. Post 2012

The critical issue now is deciding which countries should take the main responsibility for reducing greenhouse gas emissions in the next phase, after 2012, when the first commitment period of the Kyoto Protocol comes to an end.⁷³ Is it sufficient to carry on with the existing Kyoto Protocol arrangement in which the current Annex I Parties⁷⁴ are to have more stringent commitments under Article 3 to be spelled out in Annex B⁷⁵ of the Kyoto Protocol? Or should the fast-growing, developing countries such as India and China—which emit more GHGs than several developed countries—also take on binding commitments for the second commitment period or soon thereafter? With the steadily growing emission of GHGs in India and China, it is clear that the international community cannot accept business as usual from *any* state.⁷⁶ All states have to pull their weight in the climate change context. But what does this mean for India and China?

73. *Id.*

74. Annex I Parties constitute the developed countries, namely, most of the member countries of the Organization of Economic Cooperation and Development (OECD) and the countries with economies in transition (EIT). The Annex I Parties are listed at the end of the UNFCCC and include the following countries: Australia; Austria; Belarus; Belgium; Bulgaria; Canada; Croatia; Czech Republic; Denmark; European Economic Community; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Japan; Latvia; Liechtenstein; Lithuania; Luxembourg; Monaco; Netherlands; New Zealand; Norway; Poland; Portugal; Romania; Russian Federation; Slovakia; Slovenia; Spain; Sweden; Switzerland; Turkey; Ukraine; United Kingdom of Great Britain and Northern Ireland; and the United States of America. UNFCCC, *supra* note 4, annex I; *see also* Conference of the Parties on its Third Session, Kyoto, Japan, Dec. 1-11, 1997, *Amendments to the List in Annex I to the Convention Under Article 4.2(f) of the Convention*, Dec. 4/C.P.3, U.N. Doc. FCCC/CP/1997/7/Add.1 (Mar. 18, 1998), *available at* http://www.gcrl.org/OnLnDoc/pdf/kyoto_protocol.pdf (deleting Czechoslovakia from list and adding Croatia, Czech Republic, Liechtenstein, Monaco, Slovakia, and Slovenia).

75. Annex B Parties are Annex I Parties that have binding limitation or reduction commitments in the Kyoto Protocol. This list appears at the end of the Kyoto Protocol (the numeral is the qualified emission limitation or reduction commitment, a percentage of the base year or period for the first commitment period): Australia 108; Austria 92; Belgium 92; Bulgaria 92; Canada 94; Croatia 95; Czech Republic 92; Denmark 92; Estonia 92; European Community 92; Finland 92; France 92; Germany 92; Greece 92; Hungary 94; Iceland 110; Ireland 92; Italy 92; Japan 94; Latvia 92; Liechtenstein 92; Lithuania 92; Luxembourg 92; Monaco 92; Netherlands 92; New Zealand 100; Norway 101; Poland 94; Portugal 92; Romania 92; Russian Federation 100; Slovakia 92; Slovenia 92; Spain 92; Sweden 92; Switzerland 92; Ukraine 100; United Kingdom of Great Britain and Northern Ireland 92; and the United States of America 93. Kyoto Protocol, *supra* note 5, annex B. The Annex I and Annex B lists of countries are essentially the same. *Compare* UNFCCC, *supra* note 4, annex I, *with* Kyoto Protocol, *supra* note 5, annex B.

76. Neil Sands, *China, India Speed Climate Change: Australian Report*, YAHOO! NEWS, Feb. 21, 2008, http://news.yahoo.com/s/afp/20080221/sc_afp/australiacimatewarmingreport.

The UNFCCC dictates in Article 3 that the CBDR principle is to be used for guidance.⁷⁷ By applying the CBDR principle, the Convention specifically stipulates in Article 4 that the developed countries are to “take the lead.”⁷⁸ However, the UNFCCC does not give Annex I Parties (developed countries) any *binding* commitments; it only “urges” them to reduce their GHGs.⁷⁹ Non-Annex I Parties (developing countries), however, were not given such an “aim” to reduce GHGs, but the Convention does specify that non-Annex I Parties can take on voluntary commitments to do so.⁸⁰ However, all Parties were required to fulfill binding commitments to report on their national inventory of anthropogenic emissions and measures taken to implement the UNFCCC. The timetables for the reporting requirements were differentiated among the Parties: Developed countries were given a six-month deadline, developing countries were given three years, and the least-developed countries could report at their discretion.⁸¹

At the first Conference of the Parties to the Climate Convention, COP-1, in 1995, the Parties agreed in the Berlin Mandate that the commitments to reduce GHGs under the UNFCCC needed to be strengthened, but stipulated, again, that the Annex I Parties were to “take the lead.”⁸² As a result, the developing countries were not given any binding commitments to reduce GHG emissions in what became known as the Kyoto Protocol.

The core commitment of the Kyoto Protocol, stated in Article 3, also clearly captures the CBDR principle. That commitment requires Annex I Parties to reduce their overall emissions of GHGs by at least five percent below the 1990 levels in accordance with the reduction commitments specified in Annex B of the Kyoto Protocol.⁸³ Only Annex I Parties were given binding reduction commitments while non-Annex I Parties were not given any targets. This has been a point of contention for the U.S. ever since the Kyoto Protocol was adopted.

III. OUTCOME OF THE CLIMATE CHANGE CONFERENCE IN BALI IN 2007

A. Bali Action Plan

In response to the lack of binding commitments for developing countries, the international community finally, in 2005, at COP-11, agreed to start a series of “dialogues” to consider long-term cooperation under the UNFCCC “without prejudice to any future negotiations, com-

77. UNFCCC, *supra* note 4, art. 3(1).

78. *Id.* art. 4(2)(a).

79. *Id.* art. 4(2)(a)-(b).

80. *Id.* art. 4(2)(g).

81. *Id.* art. 12(5).

82. UNFCCC, *Report of the Conference of the Parties on Its First Session*, § I(1)(a), U.N. Doc. FCCC/CP/1995/7/Add.1 (Apr. 7, 1995) [hereinafter Berlin Mandate].

83. Kyoto Protocol, *supra* note 5, art. 3(1), annex B.

mitments, process, framework or mandate under the Convention.”⁸⁴ At Bali in 2008, at COP-13, the Parties to the UNFCCC established the Ad Hoc Working Group on Long-term Cooperative Action (AWGLCA) as a subsidiary body under the UNFCCC.⁸⁵ This decision was made as part of the Bali Action Plan, which was adopted by the Conference of the Parties to the UNFCCC.⁸⁶ This plan constitutes one track of the Bali Roadmap.⁸⁷ The other track deals with the negotiations under the Kyoto Protocol, which will be covered in the next subsection. The Bali Action Plan was adopted by consensus after negotiating twenty-four hours overtime.⁸⁸ Tensions were high when the delegate from Papua New Guinea asked the U.S. delegation to “get out of the way” if it was not going to lead the way.⁸⁹ In the eleventh hour the U.S. delegation decided to be more flexible and joined the consensus which allowed for the adoption of the Bali Action Plan.⁹⁰

The Bali Action Plan sets out a roadmap that includes four building blocks: mitigation, adaptation, technology transfer, and financial resources.⁹¹ AWGLCA is to carry out a comprehensive process to enable the implementation of the UNFCCC through long-term action, starting now and going beyond 2012.⁹² It is to produce an agreement that can be adopted at the 15th meeting of the Conference of the Parties (COP-15) in 2009 in Copenhagen.⁹³

AWGLCA has a mandate to come up with a long-term *global* goal for emission reductions.⁹⁴ This has been lacking since the adoption of the UNFCCC. There were no specific numbers defining what constituted “dangerous . . . interference with the climate system.”⁹⁵ Now the IPCC has stipulated that global emissions need to peak in 10-15 years and that emissions need to decline by 50 percent by 2050 in the most

84. UNFCCC, *Dialogue on Long-term Cooperative Action to Address Climate Change by Enhancing Implementation of the Convention*, ¶ 1, Decision -/CP.11 (Dec. 10, 2005) available at http://unfccc.int/files/meetings/cop_11/application/pdf/cop11_00_dialogue_on_long-term_coop_action.pdf.

85. Bali Action Plan, *supra* note 7, ¶ 2.

86. *Id.*

87. Bali Roadmap, Address to Closing Plenary by His Excellency Mr. Rachmat Witoelar, President, UN Climate Change Conference Closing of Joint High-Level Segment Bali (Dec. 15, 2007) available at http://unfccc.int/files/meetings/cop_13/application/pdf/close_stat_cop13_president.pdf.

88. *Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007*, EARTH NEGOTIATIONS BULL. (International Institute for Sustainable Development, New York, N.Y.), Dec. 18, 2007, at 15, available at <http://www.iisd.ca/download/pdf/enb12354e.pdf> [hereinafter ENB].

89. *Id.* at 16.

90. *Id.* at 20.

91. *Id.* at 19; *see also* Bali Action Plan, *supra* note 7, art. 1(b)-(e).

92. Bali Action Plan, *supra* note 7, art. 1.

93. *Id.*

94. *Id.* art. 1(a).

95. UNFCCC, *supra* note 4, art. 2.

stringent stabilization category (below 490 ppmv CO₂-equivalent).⁹⁶ Furthermore, Annex I Parties would need to reduce their emissions significantly by 2020 (10-40 percent).⁹⁷ These numbers were not, however, spelled out in the Bali Action Plan due to opposition from the U.S., Canada, Russia, and Japan, which did not want to prejudge the outcome of the process.⁹⁸ The Plan makes a reference to the Fourth Assessment Report of the IPCC, but only mentions “deep cuts” in global emissions will be needed to achieve the ultimate objective of the Convention.⁹⁹

In regards to mitigation, AWGLCA is to consider mitigation commitments or actions, including quantified emission limitations and reduction objectives by all developed country Parties.¹⁰⁰ Developing countries are to have nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing, and capacity-building, in a measurable, reportable, and verifiable manner.¹⁰¹ Policy approaches related to reducing emissions from deforestation and forest degradation are also supposed to be considered.¹⁰² In regards to mitigation, AWGLCA is also to consider cooperative sectoral approaches and the use of markets.¹⁰³

The Bali Action Plan calls for international cooperation to support urgent implementation of adaptation action using vulnerability assessments, financial-needs assessments, and capacity-building and response strategies, among others.¹⁰⁴ Risk management is promoted as well as insurance to transfer risks.¹⁰⁵ Furthermore, economic diversification is emphasized to build resilience.¹⁰⁶ In regards to technology transfer, AWGLCA is to consider means for removal of obstacles and provisions of incentives to scale-up the development and transfer of technology to developing countries, thus promoting access to affordable, environmentally-sound technology.¹⁰⁷ Enhanced action on the provision of financial resources will be based on consideration of improved access to adequate, predictable and sustainable financial resources for developing countries,

96. BRIAN FISHER & NEBOJSA NAKICENOVIC, ISSUES RELATED TO MITIGATION IN THE LONG-TERM CONTEXT 172, available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter3.pdf> (last visited Mar. 28, 2008).

97. TERRY BARKER ET AL., CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, TECHNICAL SUMMARY 90 (2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-ts.pdf>.

98. ENB, *supra* note 88, at 15.

99. Bali Action Plan, *supra* note 7, pmb1.

100. *Id.* art.1(b)(i).

101. *Id.* art.1(b)(ii).

102. *Id.* art.1(b)(iii).

103. *Id.* art.1(b)(iv-v).

104. *Id.* art.1(c)(i).

105. *Id.* art.1(c)(ii).

106. *Id.* art.1(c)(iv).

107. *Id.* art.1(d)(i).

including new and additional resources and mobilization of private sector funding and investment.¹⁰⁸

B. Negotiations Under the Kyoto Protocol

In the context of the Kyoto Protocol, the first Conference of the Parties serving as the Meeting of the Parties (COP/MOP-1) met in Montreal in 2005 and began negotiations on longer-term international cooperation on climate change.¹⁰⁹ They established a new subsidiary body, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG).¹¹⁰ According to Article 3, paragraph 9 of the Kyoto Protocol, commitments for subsequent periods—in other words after 2012 (after the first commitment period)—shall be established for Annex I Parties in amendments to Annex B of the Kyoto Protocol.¹¹¹ The negotiators at Bali considered the work of AWG to be the second track of the Bali Roadmap. At Bali, AWG agreed to spell out the target ranges stipulated by the Fourth Assessment Report of the IPCC, mentioned above,¹¹² which AWGLCA was not able to agree on.¹¹³ This was to show that AWG's work would be guided by a "shared vision" of the UNFCCC's ultimate objective.¹¹⁴ One of the main tasks of AWG was to develop a work program and timetable to guide the completion of its work in order to avoid a gap between the first and second commitment period of the Kyoto Protocol.¹¹⁵ AWG was able to reach this goal, setting the deadline for 2009 when it will forward relevant decisions on Annex I future commitments for adoption by COP/MOP-5 in Copenhagen.¹¹⁶

IV. ANALYSIS OF THE AMENDMENTS TO THE UNFCCC AND THE KYOTO PROTOCOL

The Bali Roadmap does not specify what form of an agreement is supposed to be adopted in Copenhagen in 2009. Will there be a new framework convention with new goals on global emission reductions—long-term and short-term? There have been discussions that have considered setting commitments based on per capita emissions rather than

108. *Id.* art.1(e)(i), (v).

109. Press Release, United Nations Framework Convention on Climate Change (Dec. 10, 2005) available at http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/press051210_cop11.pdf.

110. Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/3878.php (last visited Mar. 28, 2008).

111. Kyoto Protocol, *supra* note 5, art. 3(9).

112. See IPCC's AR4, *supra* note 7.

113. REPORT OF THE AD HOC WORKING GROUP ON THE FURTHER COMMITMENTS FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL ON ITS RESUMED FOURTH SESSION 5 (2008), available at <http://unfccc.int/resource/docs/2007/awg4/eng/05.pdf> (last visited Mar. 28, 2008) [hereinafter AWG REPORT].

114. *Id.*; see also ENB, *supra* note 88, at 17-18.

115. AWG REPORT, *supra* note 113, at 5.

116. *Id.* at 8.

total emissions, and emission ranges have also been suggested.¹¹⁷ Furthermore, emissions by sectors such as transportation and utilities have been considered.¹¹⁸

The goal of the international community must be to move much more quickly to act on climate change, especially now that we know that we do not have decades to figure out what to do.¹¹⁹ This article proposes amending the UNFCCC to include "Annex III" to include the fast-growing developing countries that emit large amounts of GHGs.¹²⁰ The Annex III Parties would then have commitments under the Kyoto Protocol under a new "Annex C." Furthermore, a separate provision, Article 11-Bis, would be added to the Kyoto Protocol, entitled the "Annex C Mitigation Fund." This fund would specifically assist the fast-growing developing countries in achieving compliance with their new Kyoto Protocol commitments to be specified in Annex C.

Amending the UNFCCC and the Kyoto Protocol by adding Annex III, Annex C, and the Annex C Mitigation Fund would create the needed equitable bargain between developed and developing countries. This bargain would balance the primary interests of developing countries, such as economic development to eradicate poverty and address debt issues, with the primary interest of the developed countries to protect the climate system. Furthermore, it would operationalize the concept of sustainable development, which the international community agreed to implement through the Rio Declaration,¹²¹ and Agenda 21, adopted at the Rio Conference in 1992.¹²² Amending the UNFCCC and the Kyoto Protocol by adding Annex III, Annex C, and the Annex C Mitigation Fund would reflect the principle of common but differentiated responsibilities enunciated in the Rio Declaration. Ultimately, this proposal would promote sustainable development while upholding the stated objective of the U.N. Framework Convention on Climate Change: "stabilizing GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."¹²³

117. See generally Kevin A. Baumert, Timothy Herzog & Jonathan Pershing, *Navigating the Numbers: Greenhouse Gas Data and International Climate Policy* (2005), http://pdf.wri.org/navigating_numbers_front.pdf.

118. *Id.*

119. See Press Release, United Nations Foundation, Science Panel Outlines Roadmap for Reducing Risks from Climate Change, (Feb. 27, 2007), available at http://www.unfoundation.org/media_center/press/2007/pr_22707.asp.

120. RAJAMANI, *supra* note 54, at 248.

121. *Rio Declaration*, *supra* note 51, art. 1.

122. Agenda 21, available at <http://habitat.igc.org/agenda21/index.html> [hereinafter Agenda 21]. Sustainable development is commonly defined as development "meeting the needs of the present without compromising the ability of future generations to meet their own needs." OUR COMMON FUTURE, *supra* note 36, at 8.

123. UNFCCC, *supra* note 4, art. 2. Article 2 states that the objective is to achieve, in accordance with the relevant provisions of the Convention, stabilization of the greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be

The UNFCCC and the Berlin Mandate both state that Annex I Parties should “take the lead.”¹²⁴ This can be interpreted as implying that developed countries are to take a leadership role based on the CBDR principle. However, the ordinary meaning of “to take the lead” also implies that once the Annex I Parties (developed countries) have taken the first step, namely to fulfill their commitments in the first commitment period, then non-Annex I Parties (developing countries) are to “follow” with their own binding commitments, be they reduction commitments or limitations or other types of action.¹²⁵ This interpretation is drawn from the context of the UNFCCC’s object and purpose of “stabilizing GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”¹²⁶ Not taking drastic action now to stabilize the GHGs will lead to dangerous interference with the climate system.

Assuming Annex B Parties actually take the lead by fulfilling their obligations during the first commitment period of the Kyoto Protocol, developing countries (at least those emitting large amounts of GHGs) then need to follow with commitments of their own during either the second or third commitment period. It is becoming quite clear that, in terms of development, some developing countries, such as China and India, are growing much more rapidly than they were at the time the Kyoto Protocol was adopted in 1997. Consequently, they are emitting much greater amounts of GHGs than many developed countries. This new situation must be reflected in the Kyoto Protocol’s commitments.¹²⁷ Given the scientific indications that climate change needs to be addressed urgently, all Parties that are major emitters of GHGs (both Annex I Parties and countries like China and India) must have binding commitments. Otherwise the object and purpose of the Climate Convention would be defeated: The international community would not be able to stabilize GHGs at a level that would prevent dangerous anthropogenic interference with the climate system.

If the major GHG-emitting developing countries are not given binding reduction commitments, the CBDR principle will have been taken beyond the limits of the object and purpose of the Climate Convention. However, it is important to stress that the assumption of binding commitments by major GHG-emitting developing countries is still contingent

achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Id.

124. See UNFCCC, *supra* note 4, art. 4(2)(a); see also Berlin Mandate, *supra* note 82, § I(1)(a).

125. Vienna Convention, *supra* note 44, art. 31.

126. See UNFCCC, *supra* note 4, art. 2.

127. At the COP-12 in November 2006, there was also mention that there be “wider and deepening participation” in regards to GHG reduction commitments. See ENB, *supra* note 88, at 11.

on the actions of the developed countries. The developed countries still need to “take the lead” by reducing their emissions during the first commitment period as dictated in Annex B and by committing to more stringent reduction targets for the second commitment period. On the issue of emission reduction ranges, Yvo de Boer stated in Bali that “[w]hat’s becoming clear to me is the more robust industrialized countries are willing to be in terms of the effort they are working towards, the stronger the reaction you’re likely to get from developing countries.”¹²⁸ “If these commitments were watered down,” he said, “G77 countries would be justified in asking why they should be more ambitious.”¹²⁹

A. Annex C

Using the Montreal Protocol as a model, the Parties to the Kyoto Protocol should amend the UNFCCC to create Annex III, a new category of Parties which would then have binding commitments under the Kyoto Protocol stipulated in Annex C. Annex III would include non-Annex I Parties with high levels of GHG emissions, such as China, India, and Brazil. Annex III Parties would have binding limitation, reduction, or mitigation action commitments under Annex C in the Kyoto Protocol starting in the second (2013-2017) or third commitment period (2018-2022), with a five-year delayed compliance schedule.¹³⁰

Technically, Annex III Parties would have many of the same rights as Annex I Parties in the context of the Kyoto Protocol, yet in the context of the UNFCCC they would remain non-Annex I Parties.¹³¹ Furthermore, Article 3 of the Kyoto Protocol, containing the core commitment, would be amended to include Annex III as follows: “The Parties included in Annex I and Annex III shall . . . ensure that their . . . emissions . . . do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments or mitigation action commitments inscribed in Annex B [and Annex C].”¹³² As they grow and emit greater amounts of GHGs, additional developing countries would graduate into the Annex III category.¹³³ China and India would qualify right away to be included in Annex III, with commitments under

128. See United Nations Framework Convention on Climate Change, Previous Coverage from COP 13, http://unfccc.int/meetings/cop_13/items/4231.php (last visited Mar. 28, 2008).

129. *Id.*

130. This is assuming the commitment periods of the Kyoto Protocol are not extended beyond five years, but continue the pattern of the first commitment period.

131. Kevin A. Baumert, *Participation of Developing Countries in the International Climate Change Regime: Lessons for the Future*, 38 GEO. WASH. INT’L L. REV. 365, 390-91 (2006). Baumert explains this type of status in the context of parties taking on voluntary commitments through the use of the alternative process available in Climate Convention Article 4.2(g) for becoming an Annex I Party. *Id.* Yet, that status would be analogous to the status described here for Annex III Parties.

132. Kyoto Protocol, *supra* note 5, art. 3(1).

133. See Tadashi Otsuka, Professor, Waseda Univ., Tokyo, Japan, Presentation at the International Symposium: Legal Principles and Post-2012 Climate Regime (Dec. 17, 2006) (slides from presentation on file with author).

Annex C in the Kyoto Protocol. For some developing countries included in Annex III, there would only be obligations to take actions or measures to mitigate climate change, others would have a limitation on emission of GHGs and not a reduction requirement. Within Annex C, the amount of reductions or limitations would be differentiated, just as they are in Annex B among the developed countries.

An important question for further analysis is when the CBDR principle ceases to apply because the former developing country has reached a certain level of economic growth and is no longer different from developed countries. In regards to emissions, would the state then graduate from Annex C into the Annex B category, joining the other developed Parties? One would have to take into account the capacity of fast-growing countries to take on the same binding commitments as long-time developed countries. Furthermore, one would need to determine at what level of development China and India should leave the developing country classification and enter the ranks of developed countries.

B. Annex C Mitigation Fund

To complement Annex C, a new Annex C Mitigation Fund needs to be incorporated into the Kyoto Protocol as "Article 11-Bis," placed immediately after Article 11, the financial provision. This amendment would be adopted simultaneously with the amendments to include Annex III in the UNFCCC and Annex C in the Protocol in order to promote the early participation of Annex III Parties in fulfilling their new Annex C commitments. This new arrangement would depend on the political will of the developed countries, since to a large extent they would be funding the Annex C Mitigation Fund. This fund would have to be substantial to help the Annex III Parties receive technology transfers and other assistance much faster than provided by the current financial mechanism under the Climate Convention and the Kyoto Protocol that is operated by the Global Environment Facility.¹³⁴ The financing for the Annex C Mitigation Fund would come from a specific small fee charged in emission trading transactions. As a result, the funding would come from developed countries because Annex B Parties are currently the only Parties using the emissions trading mechanism. As Annex III Parties start to use the emissions trading mechanism, they would also participate in the funding of the Annex C Mitigation Fund.

Following the trend in the U.N. to partner with the private sector, the Annex C Mitigation Fund would not necessarily be run by the Global Environment Facility, but could be managed by an international private bank accountable to and guided by the COP/MOP. The goal would be to use the more efficient private banking system to track, manage, and disperse the funds earmarked for the financing of the incremental costs of

134. See UNFCCC, *supra* note 4, art. 11, 21(3); Kyoto Protocol, *supra* note 5, art. 11.

“clean” technology transfer and other assistance to Annex C countries. The chosen bank would already have adopted the Equator Principles.¹³⁵

One could argue that fast-growing developing countries emitting large amounts of GHGs would be more likely to take on voluntary commitments than agree to binding commitments under Annex C. However, setting up a system in which developing countries with major economies are in a separate category seems more advantageous than subjecting them to the binding commitments under Annex B.¹³⁶ Furthermore, the Annex III/Annex C system includes the five-year delayed compliance schedule and the Annex C Mitigation Fund set up specifically for developing countries. The purpose of an Annex C Mitigation Fund is to facilitate the assumption of binding commitments by developing countries emitting large amounts of GHGs without having to slow down their economic growth in any drastic way, thereby promoting sustainable development.

C. *Climate Change Corps*

In order to make the Annex C Mitigation Fund more effective, a new set of capacity-building teams, an equivalent of the “Peace Corps”—the Climate Change Corps (3Cs)—should also be introduced. This special corps of volunteer engineers and climate scientists, among others, would be set up by individual Annex I nations. The 3Cs would be funded by the Annex C Mitigation Fund and coordinated by UNDP in order to make sure these capacity-building teams were sent to the fast-growing developing countries that needed them most urgently. The 3Cs would help facilitate the developing countries’ move toward low-carbon sustainable development, by assisting with mitigating climate change at all levels, such as training in the area of fundamental research on climate change, assisting with GHG emissions monitoring systems, improving the ability to adapt to and assimilate transferred technologies, and facilitating in the invention and production of endogenous “clean” technology.

D. *Kyoto Mechanisms*

Regarding the Kyoto Mechanisms, Annex C Parties would be able to take advantage of *all* the flexible mechanisms. Currently, developing countries can only participate in the Clean Development Mechanism (CDM). Participating in all three mechanisms is important because being eligible to participate in emissions trading can help Annex III Parties economically, while at the same time fulfilling their reduction commit-

135. The Equator Principles are guidelines for banks working in the project finance sector to ensure that projects are socially responsible and reflect sound environmental management practices. The Equator Principles (July 2006), available at http://www.equator-principles.com/documents/Equator_Principles.pdf.

136. Voluntary commitments could be adopted by first expressing to be bound by the Climate Convention, Article 4(2)(g), and then taking on commitments under Annex B of the Kyoto Protocol. UNFCCC, *supra* note 4, art. 4(2)(g); Kyoto Protocol, *supra* note 5, annex B.

ments. For instance, when they use energy efficiency to cut back on GHG emissions, they can sell the surplus credits and then use the revenue to fund new cleaner energy technology, making more credits available for them. However, Article 17 of the Kyoto Protocol would have to be amended to read as follows: "The Parties included in Annex B [and Annex C] may participate in emissions trading for the purposes of fulfilling their commitments under Article 3."¹³⁷ In the same manner, joint implementation would give the large GHG emitting developing countries the possibility of funding projects in the territory of other Annex I or Annex III Parties and receiving credits toward their own commitments.

In terms of the CDM, Annex III Parties, such as India with 33.33 percent of the program's projects,¹³⁸ would likely want to carry on as host countries to projects carried out under the CDM. Article 12 of the Kyoto Protocol specifically states that the mechanism shall assist Parties not included in Annex I.¹³⁹ In other words, Annex III Parties would continue to receive assistance in "achieving sustainable development and in contributing to the ultimate objective of the Convention" as specified in Article 12.¹⁴⁰ To achieve this, the text of Article 12 should be amended to read:

The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I [and Annex III] in achieving compliance with their quantified emission reduction limitation and reduction commitments under Article 3.

Annex III Parties could continue to host CDM projects, helping them achieve sustainable development. At the same time, these Annex III Parties could also carry out CDM projects in other developing countries and use the credits they receive to comply with their Annex C limitation or reduction commitments. For CDM projects carried out by Annex B Parties in the territory of Annex C Parties, the credits would go to the Annex B Parties.

E. Amending the UNFCCC and the Kyoto Protocol

In order to incorporate Annex III into the UNFCCC and Annex C and the Annex C Mitigation Fund into the Kyoto Protocol, the Protocol would have to be amended by the Parties. To amend the Kyoto Protocol

137. Kyoto Protocol, *supra* note 5, art. 17.

138. United Nations Framework Convention on Climate Change, CDM Statistics, Registration, <http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html> (last visited Mar. 28, 2008). There are 948 registered project activities as of March 3, 2008. *Id.*

139. Kyoto Protocol, *supra* note 5, art. 12(2).

140. *Id.* This would allow developing countries to mature economically while taking social and environmental issues, including climate change, into account. See OUR COMMON FUTURE, *supra* note 36, at 8; Rio Declaration, *supra* note 51, princs. 3-5.

in order to incorporate the Annex C Mitigation Fund as Article 11-Bis requires that a proposed amendment be sent to the Parties at least six months before the COP/MOP where it would be proposed for adoption.¹⁴¹ If the Parties to the Kyoto Protocol could not reach agreement by consensus, the amendment would be adopted by a three-fourths majority vote of the Parties.¹⁴² The amendment would enter into force for the Parties that accepted it ninety days after at least three-fourths of the Parties deposited their instrument of ratification.¹⁴³ Adopting a new Annex III to the UNFCCC and Annex C to the Kyoto Protocol would follow the same procedure as for an amendment to the treaty and Protocol.¹⁴⁴

CONCLUSION

The best result that can be hoped for to result from the COP-15 in Copenhagen in 2009 is to amend the UNFCCC and the Kyoto Protocol to get near universal participation in a more forceful way to address the enormous challenges of climate change, so every nation feels its concerns are addressed. The UNFCCC should be amended to include a new category of Parties—Annex III Parties—defined as emerging economies (the fast-growing developing countries). These Parties will be able to commit to mitigation measures/emission cuts under a new Annex C of the Kyoto Protocol in return for financial and technological assistance provided by a new Annex C Mitigation Fund. Then, perhaps, the United States will feel compelled to ratify the Kyoto Protocol and comply with its stipulated reduction targets under Annex B of the Kyoto Protocol, allowing for a unified approach against global climate change. This would go a long way in addressing the dilemmas of climate regulation and equity. It would also allow the fast-growing developing countries to move toward sustainable development, while at the same time address the scourge of climate change based on the efforts made by the developed countries to assist them financially and using effective mechanisms to provide them with affordable, environmentally-sound technologies.

141. Kyoto Protocol, *supra* note 5, art. 20(3).

142. *Id.* art. 20(4).

143. *Id.* art. 20(5).

144. *Id.* art. 21(3)-(4); *see also* UNFCCC, *supra* note 4, art. 15-16.

