

THE CLEAN DEVELOPMENT MECHANISM AND THE POVERTY ISSUE

BY

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The Clean Development Mechanism (CDM) is one of the flexible mechanisms set forth by the Kyoto Protocol. The mechanism is designed to help Annex 1 Countries meet their greenhouse gas emissions reduction commitment by implementing a project in a Non-Annex 1 Country hosting the project, a project that must also enhance sustainable development in the host country. While there is no formal definition of sustainable development, one aspect of it is poverty eradication. The UNFCCC has recognized that climate change and poverty are linked. Because the CDM is the only mechanism involving developing countries, this Article analyzes the impacts of this mechanism on poverty alleviation. The first Part of the Article focuses on the current system and its failure as it relates to poverty eradication; neither the poorest countries nor the most vulnerable populations benefit from the CDM projects. The second Part of this Article focuses on possible modifications of the CDM to better address poverty, analyzes the financial schemes imagined or implemented to supplement the CDM, comes to the conclusion that the CDM is probably not an adequate solution to poverty eradication, and advocates for a new financial system to supersede the current mechanism. (This Article was written before the Cancún Summit on Climate Change.)

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I. INTRODUCTION

The Clean Development Mechanism (CDM) was introduced late in the Kyoto negotiations, and was in fact referred to as the ‘Kyoto Surprise.’¹ It is one of the three market-based mechanisms created by the Kyoto Protocol in 1997 to contribute to reducing emissions of greenhouse gases (GHGs), and the only one involving developing countries.² Defined at Article 12 of the

¹ Franck Lecocq & Philippe Ambrosi, *The Clean Development Mechanism: History, Status, and Prospects*, 1 REV. ENVTL. ECON. & POL’Y 134, 134 (2007).

² Marcos A. Orellana, *Climate Change and the Millennium Development Goals: The Right to Development, International Cooperation and the Clean Development Mechanism*, SUR INT’L J. ON HUM. RTS., Jun. 2010, at 145, 151, available at <http://www.surjournal.org/eng/conteudos/pdf/12/08.pdf>; ENERGY & ENV’T GRP., U.N. DEV. PROGRAMME, THE CLEAN DEVELOPMENT MECHANISM: A USER’S GUIDE 11 (2003), available at <http://www.undp.org/energy/docs/>

Kyoto Protocol, the objective of the CDM “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 in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.”³ A CDM project must be approved by the host country and the investor country’s Designated National Authorities (DNA),⁴ and registered with the Executive Board (EB)⁵ established by the United Nations Framework Convention on Climate Change (UNFCCC).⁶ The CDM project helps reduce GHG emissions in the host country by enabling the developed country to meet its obligation through this flexible means and by allowing the creation of Certified Emissions Reductions (CERs), which are carbon credits that can be sold and traded on the developed countries’ carbon markets.⁷ The registration of the project and the issuance of CERs are overseen by the EB, with the objective of “ensuring [CDM] environmental integrity.”⁸

The two main goals of this mechanism are one, to help Annex I Countries meet their GHG emissions reduction objective, and two, to promote sustainable development in the Non-Annex I Countries where the projects are implemented.⁹ Non-Annex I Countries range from fast growing economies—Brazil, China, India—to Least Developed Countries (LDCs) and Small Island Developing States (SIDS) with weaker economies and infrastructure.¹⁰ The CDM is thus seen as a tool to limit climate change

cdmchapter1.pdf (“The CDM is the only flexibility mechanism created by the Kyoto Protocol that involves developing countries.”).

³ Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 12, ¶ 2, Dec. 11, 1997, 2303 U.N.T.S. 162 [hereinafter Kyoto Protocol].

⁴ United Nations Framework Convention on Climate Change, Montreal, Can., Nov. 28–Dec. 10, 2005, Dec. 3/CMP.1, *Rep. of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: Part Two: Action Taken by the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol at its First Session*, Annex, *Modalities and Procedures for a Clean Development Mechanism*, ¶ 40(a), U.N. Doc. FCCC/KP/CMP/2005/8/Add.1 (Mar. 30, 2006), available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf> [hereinafter *Montreal Rep. of the COP/MOP Part Two*].

⁵ *Id.*

⁶ See Kyoto Protocol, *supra* note 3, art. 12, ¶ 4; see also Baker & McKenzie, CDM Rulebook: Executive Board, <http://www.cdmrulebook.org/65> (last visited July 17, 2011) (stating that the Kyoto Protocol established the EB).

⁷ See Energy & Env’t Grp., *supra* note 2, at 11.

⁸ United Nations Framework Convention on Climate Change, Copenhagen, Den., Dec. 7–18, 2009, ¶ 11, *Annual Rep. of the Executive Board of the Clean Development Mechanism to the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol*, 5, U.N. Doc. FCCC/KP/CMP/2009/16 (Nov. 4, 2009), available at <http://unfccc.int/resource/docs/2009/cmp5/eng/16.pdf> [hereinafter *CDM Executive Board Annual Rep.*].

⁹ Kyoto Protocol, *supra* note 3, art. 12, ¶ 2.

¹⁰ United Nations Framework Convention on Climate Change, List of Non-Annex I Parties to the Convention, http://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php (last visited Mar. 26, 2011); DOMINIC WILSON & ROOPA PURUSHOTHAMAN, *DREAMING WITH BRICS: THE PATH TO 2050*, at 3 (2003), available at <http://www2.goldmansachs.com/ideas/brics/book/99-dreaming.pdf>; United Nations Conference on Trade and Development, UNCTAD Recognition of the Challenges Faced by ‘Other Structurally Weak, Vulnerable and Small Economies,’ <http://www.unctad.org/templates/Page.asp?intItemID=5875&lang=1> (last visited

effects and to improve the situation in the developing countries, through capacity building, infrastructure, and technology transfer.¹¹

Eradication of extreme poverty and hunger is the first goal set by the United Nations members as part of the Millennium Development Goals.¹² A way to achieve that goal is to “[s]upport research and development in yield-enhancing agricultural and climate change technologies.”¹³ The Conference of the Parties acknowledged the link between climate change, sustainable development, and poverty eradication in 2002 in the Delhi Ministerial Declaration on Climate Change and Sustainable Development, in which the Conference called for “energy policies [that] are supportive to developing countries’ efforts to eradicate poverty.”¹⁴ The United Nations Development Programme (UNDP) also recognized that theoretically, the CDM could be used as a tool to alleviate poverty.¹⁵ Investors bring finance and technology to developing countries, allowing efficient and innovative measures to enhance the quality of life of the population, while reducing GHG emissions in that country.¹⁶

Out of the two goals of the CDM, the current system primarily focuses on the first objective, GHG emissions reduction, without realizing the possibilities for poverty eradication. This is favored by the fact that the host country alone, through its DNA, can assess whether the project achieves sustainable development.¹⁷ Host countries have therefore no specific incentives to accept projects with a greater effect on sustainable development over projects carrying a high reduction of GHGs, but with an insignificant impact on sustainable development and poverty alleviation. A study conducted in 2007 about the CDM and sustainable development concluded that “left to market forces, the CDM does not significantly contribute to sustainable development.”¹⁸

Jun. 9, 2011); *see also* United Nations Framework Convention on Climate Change, Parties & Observers, http://unfccc.int/parties_and_observers/items/2704.php (last visited Mar. 26, 2011) (describing Annex I and Non-Annex I parties).

¹¹ *See* WOLFGANG STERK ET AL., WUPPERTAL INST. FOR CLIMATE, ENV'T & ENERGY, FKZ KI I 4-UM08 41 727, FURTHER DEVELOPMENT OF THE PROJECT-BASED MECHANISMS IN A POST-2012 REGIME 13–14, 33–34, 59, 82 (2009) (discussing expectations of the CDM and assessing the success of the CDM in meeting those expectations) [hereinafter *Wuppertal Inst. Final Rep.*].

¹² United Nations, United Nations Millennium Development Goals, <http://www.un.org/millenniumgoals/poverty.shtml> (last visited July 17, 2011) (listing the goals in numerical order).

¹³ United Nations, High-Level Event on the Millennium Development Goals: Fact Sheet (Sept. 25, 2008), *available at* <http://www.un.org/millenniumgoals/2008highlevel/pdf/newsroom/Goal%201%20FINAL.pdf>.

¹⁴ United Nations Framework Convention on Climate Change, New Delhi, India, Oct. 23–Nov. 1, 2002, *The Delhi Ministerial Declaration on Climate Change and Sustainable Development*, U.N. Doc. FCCC/CP/2002/L.6/Rev.1, at 3 (Nov. 1, 2002), *available at* <http://unfccc.int/resource/docs/cop8/106r01.pdf>.

¹⁵ *See* ENERGY & ENV'T GRP., *supra* note 2, at 12.

¹⁶ *Id.* at 11–12.

¹⁷ *Montreal Rep. of the COP/MOP Part Two*, *supra* note 4, at ¶ 40(a).

¹⁸ Karen Holm Olsen, *The Clean Development Mechanism's Contribution to Sustainable Development: A Review of the Literature*, 84 CLIMATIC CHANGE 59, 59 (2007).

The first CDM project was registered in 2005,¹⁹ and since then, more than 5,600 projects have been carried out, registered, or are currently in the pipeline.²⁰ The success of this new mechanism is obvious; it has attracted investors in many developing countries and has helped transfer to Non-Annex I Countries the technology needed to reduce GHG emissions.²¹ However, questions remain. What has been, and currently is, the impact of the CDM on the poverty issue? Do the CDM projects foster sustainable development and improve standards of living in the host countries, in terms of quality of air, water, and access to natural resources or employment? How do impoverished populations really benefit from the CDM project revenue? A 2007 review of the first sixteen registered CDM projects found that less than one percent of the GHG reductions achieved through these projects had a significant impact on sustainable development.²² An Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, in preparation of documents for further negotiations post-Copenhagen, sought to promote co-benefits of the CDM projects and explicitly stated that one of these co-benefits should be “poverty eradication.”²³ Climate change related mechanisms could play an important role to alleviate poverty, but so far, the poverty eradication goal has been left aside.

In the first Part of the analysis, this Article establishes that the implementation of CDM projects has been inadequate. The Article points to the reasons that limit a more effective implementation of the CDM in poor countries, especially the LDCs, SIDS, and Africa. The second Part summarizes and assesses the proposals made by different states and organizations to better implement the CDMs, as well as envisions other solutions that would better address the poverty issue.

II. THE CDM AND THE POVERTY ISSUE: A FAILURE?

The CDM was created to benefit both developed and developing countries. It enables all Non-Annex I Countries to host a CDM project and

¹⁹ Secretariat of the U.N. Framework Convention on Climate Change, CDM: First Emission Credits Issued Under the Kyoto Protocol, http://cdm.unfccc.int/CDMNews/issues/issues/I_WJHSF1N67JGAORWII2BKVAI8074B5A/viewnewsitem.html (last visited July 17, 2011).

²⁰ Secretariat of the U.N. Framework Convention on Climate Change, CDM in Numbers, <http://cdm.unfccc.int/Statistics/index.html> (last visited July 17, 2011).

²¹ See United Nations Framework Convention on Climate Change, CDM Bazaar, <http://www.cdmbazaar.net/> (last visited July 17, 2011) (showing recent activity of sellers, buyers, and service providers in the carbon market. And providing profiles for buyers and sellers of available CDM projects and demonstrating the overall success of the CDM through the large participation of buyers and sellers).

²² Alexander Bozmoski et al., *Prosperous Negligence: Governing the Clean Development Mechanism for Markets and Development*, ENVIRONMENT, May/June 2008, at 18, 22.

²³ See United Nations Framework Convention on Climate Change, Copenhagen, Den., Dec. 7–15, 2009, *Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol*, U.N. Doc. FCCC/KP/AWG/2009/10/Add.1/Rev.2, at 11 n.5 (Nov. 16, 2009) (memorializing Bolivia’s concern that developing countries have a sufficient share of global emissions to meet development needs and address poverty).

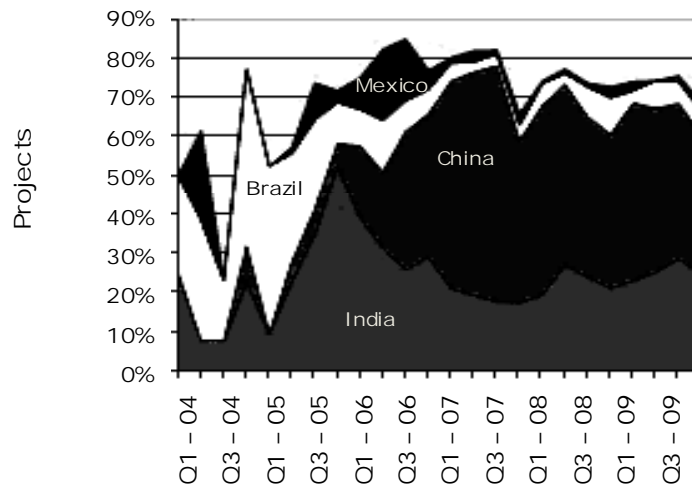
benefit from its revenue.²⁴ Unfortunately, only a few countries have benefited from the CDM.²⁵ First, this leads to questions of the effectiveness of the CDM on eradicating poverty in the poorest countries. Second, it raises questions about whether in fast growing developing countries or in the most vulnerable countries, the CDM projects truly benefit the poorest populations and help enhance their lives, which is likely the core issue to evaluate.

A. CDM and the Poorest Countries

1. The Unbalanced Distribution of the CDM Projects: Major Host Countries

The inequity in the regional distribution of the CDM projects is a recognized fact: one of the mandates of the EB is indeed to report to the Conference of the Parties serving as the Meeting of the Parties (COP/MOP) about the geographical distribution of the CDM project activities, identifying the barriers to a more equitable distribution.²⁶ To understand the repartition of the CDM projects worldwide, Table 1 below shows the evolution, from 2004 to 2009, of the CDM projects in the pipeline in the biggest four host countries: Brazil, China, India, and Mexico.

Table 1: Evolution of CDM projects in the pipeline in Brazil, China, India, and Mexico as a fraction of all the projects, from January 2004 to March 2009.²⁷



²⁴ U.N. ENV'T PROGRAMME ET AL., IMPLEMENTING CDM PROJECTS: GUIDEBOOK TO HOST COUNTRY LEGAL ISSUES 18 (Paul Curnow & Glenn Hodes eds., 2009).

²⁵ See discussion *infra* Part II.A.1.

²⁶ *Montreal Rep. of the COP/MOP Part Two*, *supra* note 4, ¶ 5(h).

²⁷ U.N. Env't Programme Risoe Ctr., CDM Projects by Host Country, <http://cdmpipeline.org/cdm-projects-region.htm> (last visited July 17, 2011) (demonstrating project numbers in the table entitled, "All CDM Projects in the Pipeline in Brazil + Mexico + India + China as a fraction of all projects").

The implementation of the CDM projects reveals an unequal focus on some countries. As of 2004, as indicated in Table 1, Mexico, India, China, and Brazil represented about 50% of the CDM projects in the pipeline.²⁸ Except for a decrease in 2004–2005, the number of CDM projects in the pipeline in these host countries has been constant and fluctuates between 65% and 85% of all projects.²⁹ Concerning the registered projects, as of March 2010 Brazil, South Africa, India, China, and Mexico account for about three quarters of all projects,³⁰ while other African countries account for less than 2% of the aggregate number of registered projects, with thirty-eight projects as of the beginning of 2010.³¹ This data demonstrates that the CDM projects, whether already registered or still in the pipeline, are principally implemented in a small number of countries. The distribution of the CDM projects is therefore clearly unequal, with these five countries hosting more than 2,250 projects.³²

According to a list published by the World Bank, in 2010 China's Gross Domestic Product (GDP) ranks second worldwide, Brazil ranks seventh, India ninth, Mexico thirteenth, and South Africa twenty-eighth.³³ The majority of CDM projects are therefore implemented in countries with a high GDP, whereas only a quarter of these projects are distributed among the rest of the Non-Annex I Countries.³⁴ A high GDP does not necessarily mean that the population of the country does not live in poverty. For example, India's GDP ranks ninth worldwide,³⁵ yet more than 40% of its population lives on less than one U.S. dollar per day.³⁶

However, the link between a high GDP and a high number of CDM projects must be noted. Investments are mainly made in countries with a high GDP and fast growing economies.

²⁸ *See id.*

²⁹ *See id.*

³⁰ *See* Secretariat of the U.N. Framework Convention on Climate Change, CDM: Registration, <http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html> (last visited July 17, 2011) [hereinafter CDM: Registration] (listing separate countries with corresponding project numbers alongside illustrative pie chart).

³¹ *See id.*

³² *See id.*

³³ WORLD BANK, WORLD DEVELOPMENT INDICATORS DATABASE: GROSS DOMESTIC PRODUCT 2010, at 1 (2011), available at <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf> (last visited July 17, 2011) (enumerating the 2010 GDP rankings by country).

³⁴ *See* CDM: Registration, *supra* note 30.

³⁵ WORLD BANK, *supra* note 33, at 1.

³⁶ U.N. Statistics Div., Millennium Development Goals Indicators, <http://unstats.un.org/unsd/mdg/Data.aspx?cr=356> (last visited July 17, 2011) (click on the "Series Data" tab to reveal the 1994 statistic of 49.4% of the Indian population living on less than one dollar per day and the 2005 statistic of 41.6% of the Indian population living on less than one dollar per day).

2. *The CDM Projects in the Least Developed Countries, Small Island Developing States, and Africa*

The LDCs is a category of countries designated by the United Nations.³⁷ Whether a country falls within the category is determined by three criteria: 1) low per capita income, 2) weak human assets, and 3) economic vulnerability.³⁸ With regards to climate change, the LDCs are considered the most vulnerable and the least able to adapt to the various effects of global warming.³⁹ Special attention is given to the LDCs in the UNFCCC in Article 4.9, which states: “The Parties shall take full account of the specific needs and special situations of the [LDCs] in their actions with regard to funding and transfer of technology.”⁴⁰ However, the text of the Kyoto Protocol does not refer explicitly to the LDCs. As shown in Table 1, the CDM projects are not particularly focused on the LDCs.⁴¹ Should it therefore be concluded that, while the UNFCCC calls for the effects of global warming on the most vulnerable countries to be taken into account, the Kyoto Protocol CDM’s main focus is not necessarily the development of the poorest countries? Have sustainability improvement and poverty alleviation in the poorest countries been forgotten in the implementation of the CDM?

The EB has recognized the inequitable distribution of CDM projects. In 2006, it requested the Parties to submit their observations relating to the systemic barriers to an equitable distribution of CDM project activities.⁴² All submissions acknowledged the barriers, and two of the primary reported obstacles were “a need for increased financial resources to assist in building requisite capacity and [] innovative means of project financing/risk management.”⁴³ The Nairobi Framework was launched in 2006 to address this issue.⁴⁴ It is designed to promote CDM projects in the poorest countries, with a particular focus on African countries, and to enhance the geographical distribution of the projects.⁴⁵ The Nairobi Framework strives to

³⁷ See U.N. Office of the High Representative for Least Developed Countries, Landlocked Developing Countries & Small Island Developing States, *Least Developed Countries: Criteria for Identification of LDCs*, <http://www.unohrrls.org/en/lcdc/related/59/> (last visited July 17, 2011).

³⁸ *Id.* (explaining the criteria used by the Committee for Development Policy to identify LDCs).

³⁹ U.N. Conference on Trade & Dev., *Clean Development Mechanism (CDM) in Least Developed Countries*, <http://www.unctad.org/Templates/Page.asp?intItemID=4345&lang=1> (last visited July 17, 2011).

⁴⁰ United Nations Framework Convention on Climate Change, art. 4, ¶ 9, May 9, 1992, 1771 U.N.T.S. 107, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

⁴¹ See *supra* tbl. 1 (showing that the majority of CDM projects are slated for Mexico, Brazil, China, and India).

⁴² United Nations Framework Convention on Climate Change, *Clean Development Mechanism Executive Board: Proposed Agenda and Annotations: Twenty-Sixth Meeting*, Annex 4, *Equitable Distribution of Clean Development Mechanism Project Activities - Analysis of Submission*, at Attachment A, ¶ 1 (Sept. 26–29, 2006), available at <http://cdm.unfccc.int/EB/026/eb26annagan4.pdf> [hereinafter CDM Executive Board Agenda].

⁴³ *Id.* at 2.

⁴⁴ See United Nations Framework Convention on Climate Change, *Fact Sheet: The Nairobi Framework*, at 1 (June 2010), available at http://unfccc.int/files/press/backgrounders/application/pdf/fact_sheet_nairobi_framework.pdf.

⁴⁵ See *id.*

“[b]uild capacity in developing CDM project activities[,] [b]uild and enhance capacity of CDM [DNAs] to become fully operational[,] [p]romote investment opportunities for projects[,] and [i]mprove information sharing[,] outreach[,] exchange of views on activities[,] education[,] [] training[,] and [i]nter-agency coordination.”⁴⁶ While this framework is a good step towards improving the geographical distribution of the projects, and though data show that progress has been made,⁴⁷ two issues remain. First, the improvement did not reach a truly balanced geographical distribution because Africa, the LDCs, and the SIDS are still underrepresented in the CDM projects. Second, the attempt of the Conference of the Parties to bring more equity into this mechanism does not necessarily address the poverty issue. It is obvious that as more projects are implemented in the most vulnerable countries, more investments and development will result. It is, however, not clear how to best ensure that these investments and technologies benefit the poorest populations.

B. CDM and the Poorest Populations

1. Scope of the CDM: The Poverty Eradication Objective Is Not Taken into Account

Even when CDM projects are implemented in a small number of countries, and not in the most vulnerable, do they meet their objective of sustainable development and poverty alleviation? The World Resources Institute conducted a review of potential projects in China, India, and Brazil, just after the Kyoto Protocol was signed, to assess the benefits of the CDM projects with regards to sustainable development and poverty eradication.⁴⁸ According to this study, the long-term benefits of the projects can promote sustainable development;⁴⁹ however, on a short-term basis, projects may not necessarily effect employment increases, at least not locally. Indeed, some people will be removed from their land in order to implement certain projects.⁵⁰ Moreover, the sustainable development benefits of the CDM

⁴⁶ *Id.*

⁴⁷ See Dir. of Sustainable Dev. Mechanisms Programme, *Nairobi Framework: Achievements and Challenges*, at 5 (Dec. 11, 2009), available at http://cdm.unfccc.int/Nairobi_Framework/cop15_se_091211_nf.pdf.

⁴⁸ See DUNCAN AUSTIN ET AL., CLIMATE NOTES: HOW MUCH SUSTAINABLE DEVELOPMENT CAN WE EXPECT FROM THE CLEAN DEVELOPMENT MECHANISM? 4–5 (1999), available at <http://pdf.wri.org/cdm-note.pdf>.

⁴⁹ *Id.* at 4, 12.

⁵⁰ See STAR HYDROPOWER LTD., RESETTLEMENT PLANNING DOCUMENT: PAKISTAN: PATRIND HYDROPOWER PROJECT 6–7 tbl.6.5 (2011), available at http://www.adb.org/Documents/Resettlement_Plans/PAK/44914/44914-01-pak-rp-draft-01.pdf (summarizing key displacement effects discussed in resettlement plan of proposed hydropower project); see also KEVIN A. BAUMERT & ELENA PETKOVA, HOW WILL THE CLEAN DEVELOPMENT MECHANISM ENSURE TRANSPARENCY, PUBLIC ENGAGEMENT, AND ACCOUNTABILITY? 4 (2000), available at <http://pdf.wri.org/pp-note.pdf> (“CDM projects might include a number of project types that, while reducing emissions, negatively affect local communities. Electric power or forestry projects, for example, could involve a controversial facility siting, resettlement of

projects are often incidental, and not a main objective: “Without careful assessment of the noncarbon attributes, there is a danger that the CDM will become little more than a cost-reduction tool for developed countries legitimized by incidental secondary benefits that may or may not be consistent with developing country priorities.”⁵¹

Though these projects are implemented in fast growing economies, some of these countries still face extreme poverty.⁵² To determine the impact of such projects, the subsequent analysis will focus on the situation of the second largest emitter within the Non Annex I Countries that have ratified the Kyoto Protocol, India.⁵³ In 2009, India enjoyed a 9% increase in economic growth,⁵⁴ but still more than 40% of its population remains below the poverty line.⁵⁵

2. Case Study: CDM Projects in India

The following analysis is based on the 300 most recent CDM projects implemented in India.⁵⁶ Out of the twenty-eight states of India and seven union territories,⁵⁷ CDM projects are implemented in only twenty-three states and two territories.⁵⁸ Out of the regions that host at least one CDM project, the figures shed light on the fact that projects are concentrated in seven regions, namely Rajasthan, Gujarat, Karnataka, Maharashtra, Andhra Pradesh, Uttar Pradesh, and Tamil Nadu.⁵⁹ These regions account for over

populations, the purchase of private or public lands, and even some adverse local environmental consequences.”)

⁵¹ AUSTIN ET AL., *supra* note 48, at 2, 4.

⁵² See WORLD BANK, WORLD DEVELOPMENT INDICATORS 2010, at 4 (2010), available at <http://data.worldbank.org/sites/default/files/wdi-final.pdf> (“Since 2000, 49 countries have attained the rate of poverty reduction needed to cut 1990 poverty rates by half and achieve the target. Thirty-eight remain off track and unlikely to reach the target.”).

⁵³ See World Bank, Data: Indicators: CO2 Emissions (kt), <http://data.worldbank.org/indicator/EN.ATM.CO2E.KT/countries/1W?display=default> (last visited July 17, 2011) (listing India numerically as the third largest emitter of carbon dioxide in 2007 behind China and the United States; thus second of Non-Annex I Countries).

⁵⁴ WORLD BANK, WORLD DEVELOPMENT INDICATORS 2011, at 11, tbl.1.1 (2011), available at http://siteresources.worldbank.org/DATASTATISTICS/Resources/wdi_ebook.pdf (listing the percent growth of India from 2008–2009 as 9.1%).

⁵⁵ See U.N. DEV. PROGRAM, HUMAN DEVELOPMENT REPORT 2010, at 119 (2010), available at http://hdr.undp.org/en/media/HDR_2010_EN_Complete_reprint.pdf (listing 2000–2008 statistics showing India with a population of 41.6% living below the poverty line of earning \$1.25 per day).

⁵⁶ United Nations Framework Convention on Climate Change, CDM: Project Search, <http://cdm.unfccc.int/Projects/projsearch.html> (last visited Jun. 20, 2011) (select “[Advanced Search];” then select “India” in drop down bar entitled “Host Country” and “Registered” in drop down bar entitled “Status;” include only the 300 projects from the last one in May 2010 to April 2007).

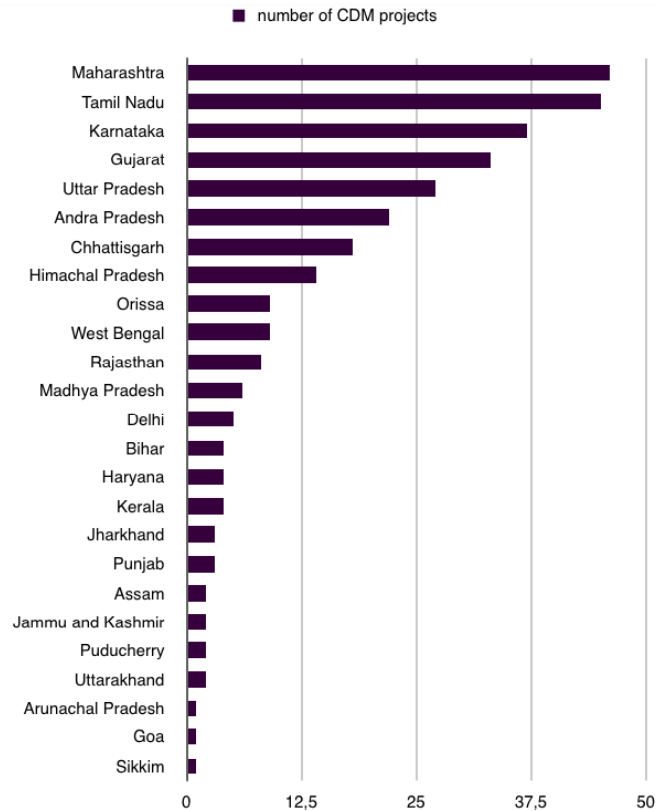
⁵⁷ Gov’t of India, States and Union Territories, http://india.gov.in/knowindia/state_uts.php (last visited July 17, 2011).

⁵⁸ United Nations Framework Convention on Climate Change, *supra* note 56 (tabulating results from the 300 projects between April 2007 and May 2010 and sorting them by state and territory as indicated within the “Title” column of the results generated from the search).

⁵⁹ Nat’l CDM Authority, Welcome to NCDMA Website, http://cdmindia.in/reports_new.php (last visited July 17, 2011) (select “State Wise Approved Projects” in drop down bar entitled

60% of the projects, as indicated in Table 2.⁶⁰ It is therefore obvious that the CDM projects in India are implemented only in a small part of the country and that most parts of the country are completely ignored.

Table 2: Number of CDM Projects in India by Region⁶¹



The comparison of CDM project implementation to the GDP of each Indian state establishes a link between the implementation of the CDM and the higher economy of these regions.⁶² On the other side, when we look at the poverty rate and take the five states with the highest percentage of its

“Select Report type;” then select “All” in “State” drop down bar; click “Search” box; results displayed show each of these seven regions has more than one hundred CDM projects).

⁶⁰ See *infra* tbl. 2; see also Nat'l CDM Authority, *supra* note 59 (showing 1,331 projects registered on June 13, 2011, out of a total of 2001 registered projects).

⁶¹ United Nations Framework Convention on Climate Change, *supra* note 56 (generating a table compiling the results).

⁶² Compare Nat'l CDM Authority, *supra* note 59 (listing CDM project numbers by state), with VMW Analytic Services, Economy of the Federal States For Year 2010 & Population for Year 2011, http://unidow.com/india%20home%20eng/statewise_gdp.html (last visited July 17, 2011) (listing the 2010 GDPs for individual Indian states, with Maharashtra, Uttar Pradesh, Andhra Pradesh, Tamil Nadu, and Gujarat ranked first through fifth, respectively, Karnataka ranked seventh, and Rajasthan ranked eighth).

population living under the poverty line—the five states being Bihar, Jharkhand, Madhya Pradesh, Orissa, and Uttarakhand—between 38.3% and 46.4% of the population lived under the national poverty line from 2004 to 2005⁶³—less than 10% of the total number of projects have been implemented in these states.⁶⁴

The data therefore establishes a clear link between the percentage of people living in poverty and the CDM implementation. The states that receive the most CDM projects, investments, and co-benefits, are the states where income per capita and GDP are generally higher than average.⁶⁵ The poorest regions receive few, if any, CDM projects.⁶⁶ This illustrates how CDM projects can be unequally distributed within a host country.

If the focus is put on the most recent thirty projects implemented, the trends seem similar: twenty-two projects were registered in the five main host regions—more than 73%—and twelve regions host at least one CDM project.⁶⁷ Not only are the CDM projects unequally distributed among developing countries, but the data also illustrates the unequal distribution of the CDM projects among people. This comprehensive—though admittedly not exhaustive—review of the CDM projects reveals that the Kyoto mechanism's goal of promoting sustainable development and reducing poverty fails to reach the world's poorest populations.

3. The Institutional Limits Causing the Inefficiency of the CDM Projects Regarding the Poverty Alleviation Objective

a. The Absence of Control and Oversight of the Executive Board over the Relevance of the Project Regarding Sustainable Development and Poverty

Nowhere in the Kyoto Protocol does a definition of the sustainable development concept exist. A commonly agreed upon definition was rejected during the Kyoto negotiations by the developing countries,⁶⁸ making the host country responsible for determining whether a project meets the criterion of sustainable development. According to the Bonn Declaration, the Parties agreed “[t]o affirm that it is the host Party's prerogative to

⁶³ See DEPARTMENT OF EVALUATION & APPLIED RESEARCH, TAMIL NADU - AN ECONOMIC APPRAISAL 2006-07 & 2007-08, pt. II, tbl.19.5, at S-132, available at http://www.tn.gov.in/dear/archives/year2006_07_08/tab/Poverty5.pdf (listing by state the number and percentage of the population below the poverty line based on Uniform Recall Period (URP) consumption).

⁶⁴ Nat'l CDM Authority, *supra* note 59 (showing that of 2,001 CDM projects, Bihar (with six projects), Jharkhand (with thirty projects), Madhya Pradesh (with fifty projects), Orissa (with seventy-two projects), and Uttarakhand (with none), comprise 7.9 % of the projects in India).

⁶⁵ Compare Nat'l CDM Authority, *supra* note 59 (listing CDM project numbers by state), with VMW Analytic Services, *supra* note 62 (listing GDP and rank by state).

⁶⁶ *Id.*

⁶⁷ United Nations Framework Convention on Climate Change, *supra* note 56 (include only the thirty most recent projects from the last one in May 2010 counting backwards).

⁶⁸ See AARON COSBEY ET AL., REALIZING THE DEVELOPMENT DIVIDEND: MAKING THE CDM WORK FOR DEVELOPING COUNTRIES 58 (2005), available at http://www.iisd.org/pdf/2005/climate_realizing_dividend.pdf.

confirm whether a [CDM] project activity assists it in achieving sustainable development.”⁶⁹ This prerogative can be the best tool to achieve sustainable development and poverty alleviation.⁷⁰ However, it also has the potential to have the most perverse effects—scholars agree on the fact that the determination by the host country “will create the incentive for non-annex 1 countries to set very low sustainable development criteria in order to attract foreign investments [and that] these incentives could lead to a race to the bottom, while the sustainable development objective is most likely to be not fulfilled.”⁷¹ Host countries will therefore not systematically reject projects with low sustainable development and low poverty reduction benefits. It is obvious that host countries benefit from the CDM through foreign investment and technology transfer, but the population is often the last beneficiary of the CDM projects, that is, if it benefits at all.⁷² Scholars propose the adoption of common elements that would define sustainable development, such as the employment generated by the project, promotion of biodiversity, poverty alleviation, or improvement of education and training.⁷³ However, the Parties have not considered this solution. At best, they suggest that DNAs “publish the criteria they use in assessing the contribution of project activities to sustainable development.”⁷⁴ This increase of transparency would certainly encourage host countries to implement projects that better fulfill the sustainable development criterion; however, no real control of the impact on development and the poorest populations would be in place. Too often still, host countries focus on the direct economic benefits, such as foreign investments, and treat the social and environmental effects “as an optional extra rather than a central project feature.”⁷⁵

⁶⁹ United Nations Framework Convention on Climate Change, Bonn, Ger., July 16–27, 2001, Dec. 5/CP.6, *Review of the Implementation of Commitments and of Other Provisions of the Convention*, U.N. Doc. FCCC/CP/2001/L.7, at 8 (July 24, 2001), available at <http://unfccc.int/resource/docs/cop6separt/107.pdf>.

⁷⁰ See Michael Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 UCLA L. REV. 1759, 1773–74 (2007); Justin K. Holcombe, *Protecting Ecosystems and Natural Resources by Revising Conceptions of Ownership, Rights, and Valuation*, 26 J. LAND RESOURCES & ENVTL. L. 83, 94 (2005).

⁷¹ HANS CURTIUS & TOBIAS VORLAUFER, THE CONTRIBUTION OF THE CDM TO SUSTAINABLE DEVELOPMENT IN CHINA: A CASE STUDY OF THE EMERGING BIOGAS SECTOR 13 (2009), available at http://www.frankhaugwitz.info/doks/cdm/2009_12_China_The_Contribution_of_CDM_to_Sustainable_Development%20_in_China.pdf (citing Christoph Sutter et al., *Does the Current Clean Development Mechanism (CDM) Deliver Its Sustainable Development Claim? An Analysis of Officially Registered CDM Projects*, 84 CLIMATIC CHANGE 75, 76 (2007) <http://www.springerlink.com/content/v3443650vg65p127/> (internal quotations omitted)).

⁷² Bozmoski et al., *supra* note 22, at 20, 22.

⁷³ COSBEY ET AL., *supra* note 68, at 15 box2.

⁷⁴ United Nations Framework Convention on Climate Change, Copenhagen, Den., Dec. 7–18, 2009, Draft Decision -/CMP.5, *Proposal by the President, Further Guidance Relating to the Clean Development Mechanism, Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol*, ¶ 46, U.N. Doc. FCCC/KP/CMP/2009/L.10, at 6 (Dec. 18, 2009), available at <http://unfccc.int/resource/docs/2009/cmp5/eng/110.pdf>.

⁷⁵ ENERGY & ENV'T GRP., *supra* note 2, at Annex II, A-12.

One of the criteria that must be met in order to issue CERs is the additionality of the project. The Kyoto Protocol poses the condition that “[e]mission reductions resulting from each project activity shall be certified . . . [provided that they] are additional to any that would occur in the absence of the certified project activity.”⁷⁶ The Marrakesh Accords further explain that “[a] CDM project activity is additional if anthropogenic emissions of [GHGs] by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.”⁷⁷ The reduction of GHG emissions must be additional to the level of GHGs that would have been emitted otherwise, according to the baseline scenario.⁷⁸ The project developer must therefore demonstrate that his CDM project is additional, following a methodology preapproved by the EB or an original methodology that will subsequently be approved by the EB.⁷⁹

The additionality test has been envisioned by the EB as an essential element in the implementation of the CDM project; it was designed to verify that the project would effectively reduce the GHG emissions and that without the CDM, such a project would not have occurred.⁸⁰ In other words, it ensures the “environmental integrity” of the project.⁸¹ However, the efficiency and credibility of the additionality test have been widely criticized.⁸² Not only is the test a financial burden for the implementation of small-scale projects, which have been proven to be the best projects to help alleviate poverty,⁸³ but also the application of the test has often been inaccurate.⁸⁴ Because the EB is under-staffed, the additionality is verified by

⁷⁶ Kyoto Protocol, *supra* note 3, art. 12, ¶ 5–5(c).

⁷⁷ United Nations Framework Convention on Climate Change, Marrakesh, Morocco, Oct. 29–Nov. 10, 2001, Dec. 17/CP.7, *Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh From 29 October to 10 November 2001, Annex, Modalities and Procedures for a Clean Development Mechanism*, ¶ 43, U.N. Doc. FCCC/CP/2001/13/Add.2 (Jan. 21, 2002), available at <http://unfccc.int/resource/docs/cop7/13a02.pdf>.

⁷⁸ *Id.* ¶¶ 43–44.

⁷⁹ MINISTÈRE DE L'ÉCONOMIE, DES FINANCES ET DE L'INDUSTRIE ET AL., CLIMATE CHANGE : GUIDE TO THE KYOTO PROTOCOL PROJECT MECHANISM: VOLUME B: THE CLEAN DEVELOPMENT MECHANISM (CDM) 31, 45 (2d ed. 2004); see generally U. N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, CLEAN DEVELOPMENT MECHANISM: CDM METHODOLOGY BOOKLET (2010), available at https://cdm.unfccc.int/methodologies/documentation/meth_booklet.pdf (summarizing the CDM approved baseline and monitoring methodologies).

⁸⁰ BEN PEARSON & YIN SHAO LOONG, THE CDM: REDUCING GREENHOUSE GAS EMISSIONS OR RELABELLING BUSINESS AS USUAL? (2003), available at <http://www.twinside.org.sg/title/cdm.doc>.

⁸¹ CDM WATCH, RECOMMENDATIONS FOR THE EFFICIENCY IN THE OPERATION OF THE CDM AND OPPORTUNITIES FOR IMPROVEMENT 1 (2009), available at http://cdm.unfccc.int/public_inputs/2009/cdmimprov/cfi/4XLOTEVWY44QZDOT8ROOFNKLAPMCHS.

⁸² See, e.g., PEARSON & LOONG, *supra* note 80.

⁸³ CENTRE FOR ENVIRONMENTAL STRATEGY, UNIVERSITY OF SURREY ET AL., ENCOURAGING CDM ENERGY PROJECTS TO AID POVERTY ALLEVIATION: ATTACHMENT 5: INSTITUTIONAL STRUCTURES AND CAPACITY BUILDING FOR THE CDM 7 (2003), available at <http://www.dfid.gov.uk/r4d/PDF/Outputs/R80377.pdf>.

⁸⁴ Barbara Kresch Haya, Carbon Offsetting: An Efficient Way to Reduce Emissions or to Avoid Reducing Emissions? An Investigation and Analysis of Offsetting Design and Practice in India and China 6 (2010) (unpublished Ph.D. dissertation, University of California, Berkeley), available at bhaya.berkeley.edu/docs/HayaDissertation.pdf.

third parties⁸⁵ called Designated Operational Entities (DOEs).⁸⁶ DOEs, paid by the developer to verify the project, may find a project additional when it is actually controversial.⁸⁷ This represents a really high risk of manipulation of the CDM. The additionality test is therefore not a safeguard for the efficiency of the project anymore; it is a challenge to it. As two Stanford professors noted: “[I]n practice, much of the current CDM market does not reflect actual reductions in emissions, and that trend is poised to get worse.”⁸⁸ Moreover, the additionality criteria is sometimes distorted to translate into “environmental additionality,” a concept undefined in the Marrakesh Accords, which tends to attribute credits to projects that would be implemented even if they would receive no carbon credits and would reduce only in theory the GHG emissions compared to a hypothetical, more polluting project.⁸⁹

b. The Lack of Incentive to Implement CDM Projects in the Most Vulnerable Countries

Small-scale projects can be developed under the CDM scheme. They benefit from a simplified procedure for their registration and implementation.⁹⁰ Yet, three main obstacles to the implementation of CDM projects in the most vulnerable countries can be identified.

First, small-scale projects are often used in rural low-income communities⁹¹ and are often seen as the best tool in the CDM system to address poverty alleviation.⁹² Small-scale projects can be implemented in areas where infrastructure does not need to be as developed as for large-scale projects, and local communities can seek employment through these

⁸⁵ Micheal W. Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets* 14 (Stanford Univ., Working Paper No. 74, 2008), available at http://iis-db.stanford.edu/pubs/22157/WP74_final_final.pdf.

⁸⁶ Secretariat of the United Nations Framework Convention on Climate Change, CDM: Designated Operational Entities, <http://cdm.unfccc.int/DOE/index.html> (last visited July 17, 2011).

⁸⁷ See Wara & Victor, *supra* note 85, at 14.

⁸⁸ *Id.* at 5.

⁸⁹ See INT'L RIVERS NETWORK & CDM WATCH, THE GOOD, THE BAD, AND THE DAMMED UGLY: STATUS NOTE ON LARGE HYDRO AND THE CLEAN DEVELOPMENT MECHANISM 3 (2003), available at <http://www.internationalrivers.org/files/gbduirncdmwatch.pdf>.

⁹⁰ See *Montreal Rep. of the COP/MOP Part Two*, *supra* note 4, at Dec. 4/CMP.1, 30 (describing at (b) how Annex II will contain “simplified modalities and procedures for small-scale clean development mechanism project activities”).

⁹¹ Emily Boyd et al., *Small-Scale Forest Carbon Projects: Adapting CDM to Low-Income Communities*, 17 GLOBAL ENVTL. CHANGE 250, 257 (2007) (concluding that “[s]mall-scale afforestation and reforestation projects under the CDM can provide a much needed contribution to livelihood strategies among the rural poor”).

⁹² See CARBON FINANCE BUSINESS, WORLD BANK, COMMUNITY DEVELOPMENT CARBON FUND: CDCFPLUS: HELPING TO MAKE THE CDM A REALITY FOR MORE DEVELOPING COUNTRIES, available at <http://wbcarbonfinance.org/docs/CDCFPlusBrochureNEW.pdf>; INT'L BANK FOR RECONSTRUCTION AND DEV., WORLD BANK, 10 YEARS OF EXPERIENCE IN CARBON FINANCE: INSIGHTS FROM WORKING WITH THE KYOTO MECHANISMS 55 (2010), available at http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/10_Years_of_Experience_in_CF_August_2010.pdf (discussing the success of the Community Development Carbon Fund in linking poverty reduction with climate change mitigation).

projects.⁹³ As of March 2011, 43% of the registered CDM projects were small-scale projects.⁹⁴ The impact of the small-scale projects on low-income populations can be so important and beneficial that organizations and scholars have called for an even more simplified methodology to establish small and very small-scale projects within the most vulnerable communities.⁹⁵ However, the administrative costs of registration and the large investment required for a CDM project usually lead investors to favor large-scale projects, attracted by the economy of scale that they can realize.⁹⁶ In contrast, a simplified methodology provides an incentive to investors to promote small-scale projects.⁹⁷ Unfortunately, given the problems that already plague the methodology, including the lack of transparency and the lack of accuracy, simplifying the methodology would open the door to more controversies and would not ensure the environmental integrity of small-scale projects. Therefore, while the small-scale project frame is a good first step to reach the poorest populations, the methodology is not currently designed to effectively ensure that sustainable development and poverty eradication remain the center of the projects.

Second, the improvement of the enforcement of investment contracts in the less favored countries must be emphasized. Less favored countries must provide guarantees to the investor; it should not only be the investor's goal to achieve poverty alleviation, but also the host country's goal. Host countries must offer a secured legal framework to the investors and must also provide the necessary infrastructure if they wish to attract CDM projects. The Parties to the UNFCCC acknowledged that the lack of stability noticed in these countries is an obstacle to an equal distribution of CDM projects.⁹⁸ Hence, it is the responsibility of the most vulnerable host countries to first put in place a viable financial and legal system before trying to attract investors within their territory.

Third, a CDM project helps the developed country to meet its GHG reduction commitment by contributing to the reduction of GHG emissions in a non-capped developing host country. The amount of issued CERs is therefore an important factor for the investors because investors will be able to sell these CERs either privately or on a carbon trading market.⁹⁹ Because

⁹³ See INT'L BANK FOR RECONSTRUCTION & DEV., *supra* note 92, at 76.

⁹⁴ Secretariat of U.N. Framework Convention on Climate Change, CDM: Registration, <http://cdm.unfccc.int/Statistics/Registration/RegisteredProjByScalePieChart.html> (last visited July 17, 2011).

⁹⁵ CDM Executive Board Agenda, *supra* note 42, at 3, 7–11; Jenny E. Henman et al., *Feasibility and Barriers to Entry for Small-Scale CDM Forest Carbon Projects: A Case Study from the Northeastern Peruvian Amazon*, 3 CARBON & CLIMATE L. REV. 254, 262–63 (2008); see also Boyd et al., *supra* note 91, at 258 (describing simplified CDM methodologies as necessary, but insufficient in itself to make small-scale forest projects successful).

⁹⁶ INT'L BANK FOR RECONSTRUCTION & DEV., *supra* note 92, at 54.

⁹⁷ *Id.* at 82, 89–90, 101.

⁹⁸ CDM Executive Board Agenda, *supra* note 42, at Attachment A, ¶ 8.

⁹⁹ Diva Rodriguez, Climate Action Programme, Carbon Reduction Guide: Understanding Carbon Credits, http://www.climateactionprogramme.org/carbon_reduction/carbon_dioxide_emissions_understanding_carbon_credits/ (last visited July 17, 2011). One CER amounts to the equivalent of one metric ton of CO₂. U.N. Framework Convention on Climate Change, *Kyoto*

LDCs, SIDS, and Africa have a very low initial GHG emissions rate, there is consequently little incentive to invest in CDM projects in these countries.¹⁰⁰ The Nairobi Framework takes this logic into account, recognizing that in Africa, the “scope for reducing emissions is correspondingly lower than in other regions.”¹⁰¹ This is a systemic barrier to an equal distribution of the CDM project activities. Investors need to be presented with some other incentive to implement CDM projects in these low GHG emitting countries.

III. RETHINKING THE CDM TO TAKE INTO ACCOUNT THE POVERTY ISSUE

The Parties to the Kyoto Protocol as well as non-governmental organizations have acknowledged the current failures of the CDM,¹⁰² and have proposed different remedies that could potentially address the poverty eradication,¹⁰³ but those remedies are more focused on the general sustainable development aspect of the CDM than on directly alleviating poverty. Some changes to the current system could however be put in place in order to put the poverty issue at the center of the fight against climate change.

A. Different Modifications to the CDM System

Various modifications to the current scheme of the CDM projects have been suggested both by the Parties to the UNFCCC and by non-

Protocol Reference Manual: On Accounting of Emissions and Assigned Amount 118 (2008), available at http://unfccc.int/resource/docs/publications/08_unfccc_kp_ref_manual.pdf.

¹⁰⁰ Isabel Hagbrink, *Why So Few Carbon Projects in Africa?*, CLIMATE CHANGE TEAM OF THE ENV'T DEP'T OF THE WORLD BANK (Mar. 11, 2010), <http://blogs.worldbank.org/climatechange/why-so-few-carbon-projects-africa> (last visited July 17, 2011); U.N. Office of the High Representative for the Least Developed Countries, *Landlocked Developing Countries and Small Island Developing States, The Impact of Climate Change on the Development Prospects of the Least Developed Countries and Small Island Developing States*, at 5 (2009), available at <http://www.unohrrls.org/UserFiles/File/LDC%20Documents/The%20impact%20of%20CC%20on%20LDCs%20and%20SIDS%20for%20web.pdf>.

¹⁰¹ *Nairobi Framework: Achievements and Challenges*, *supra* note 47, at 6.

¹⁰² CLIMATE ACTION NETWORK INT'L, VIEWS ON POSSIBLE IMPROVEMENTS TO EMISSIONS TRADING AND THE PROJECT-BASED MECHANISMS 4–6 (2009), available at <http://unfccc.int/resource/docs/2009/smsn/ngo/119.pdf>; U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, EXECUTIVE BOARD ANNUAL REPORT 2010: CLEAN DEVELOPMENT MECHANISM 7, 9 (2010) available at http://unfccc.int/resource/docs/publications/10_cdm_anrep.pdf. The Executive Board is composed of representatives of different Parties, as well as non-government affiliated members. See U.N. Framework Convention on Climate Change, CDM Executive Board, <http://cdm.unfccc.int/EB/index.html> (last visited May 25, 2011) (click on red “members” link of “The CDM EB members” on right hand side to view the current board and member affiliations).

¹⁰³ Barry Kantor, *Sustainable Development Within the Climate Context SouthSouthNorth and the Clean Development Mechanism*, 44 UN CHRONICLE (2007), http://www.un.org:80/wcn/content/site/chronicle/cache/bypass/home/archive/issues2007/pid/5018?ctnscroll_articleContainerList=1_0&ctnlistpagination_articleContainerList=true (last visited July 17, 2011).

governmental organizations.¹⁰⁴ These modifications would apply at the stage of assessment of the project as well as during its implementation.

1. Stage of Assessment

a. Giving the EB Power of Oversight over the Sustainable Development Aspect of the CDM Projects and Giving It Power of Sanction

As stated above, the host country bears the responsibility of verifying the sustainable development impacts of the CDM project.¹⁰⁵ After being approved by the DOE, the project is then registered with the EB.¹⁰⁶ This registration corresponds to the formal acceptance by the EB of a validated project as a CDM project activity: “Registration is the prerequisite for the verification, certification and issuance of CERs relating to that project activity.”¹⁰⁷ This is a formal power, but the EB does not assess the sustainable development benefits of the project.¹⁰⁸ In order to address this, the Parties to the Convention have asked the EB to take a more executive role in the CDM registration process¹⁰⁹ and the Board has tried to improve transparency and information availability.¹¹⁰

Unfortunately, the EB has limited oversight power¹¹¹ and chronically lacks personnel resources.¹¹² The Board indeed admits this fact.¹¹³ Thus, though the CDM is a successful scheme, with a rapidly increasing number of projects, the EB faces a heavy case load, which “frequently require[s] that the Board be in session or in consultations for well over the eight hours planned for a typical meeting day.”¹¹⁴ Even if the Board had the power and resources to ensure that projects complied with the sustainable development criterion, what kind of sanction would be the most efficient

¹⁰⁴ Christiana Figueres & Charlotte Streck, *The Evolution of the CDM in a Post-2012 Climate Agreement*, 18 J. ENV'T & DEV. 227, 233–34, 238–39 (2009); see *UNFCCC Secretariat Releases New AWG-KP Document on Possible Improvements to Emission Trading and Project-Based Mechanisms*, INT'L INST. FOR SUSTAINABLE DEV. REPORTING SERVS, Mar. 12, 2009, at para.1, <http://climate-1.iisd.org/news/unfccc-secretariat-releases-new-awg-kp-document-on-possible-improvements-to-emission-trading-and-project-based-mechanisms/> (last visited July 17, 2011).

¹⁰⁵ See *supra* Part II.B.3.a.

¹⁰⁶ United Nations Framework Convention on Climate Change, Montreal, Can., Nov. 28–Dec. 10, 2005, *Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: Part One: Procedures*, ¶ 35, U.N. Doc. FCCC/KP/CMP/2005/8/ (Mar. 30, 2006), available at http://afoludata.jrc.ec.europa.eu/events/Kyoto_technical_workshop/08.pdf.

¹⁰⁷ *Montreal Rep. of the COP/MOP Part Two*, *supra* note 4, ¶ 36.

¹⁰⁸ See *id.* ¶ 25 (describing authority and responsibilities of the EB).

¹⁰⁹ *CDM Executive Board Annual Rep.*, *supra* note 8, ¶ 12.

¹¹⁰ *Id.* ¶¶ 115–115(c).

¹¹¹ See *Montreal Rep. of the COP/MOP Part Two*, *supra* note 4, ¶¶ 5–25 (describing authority and responsibilities of the EB, which is primarily limited to recommendations and reviews, and lacks strong enforcement authority).

¹¹² *E.g.*, Wara & Victor, *supra* note 85, at 14 (describing the EB as “massively under-staffed” and thereby forced to rely on third parties for support).

¹¹³ See *CDM Executive Board Annual Rep.*, *supra* note 8, ¶ 11 (describing the EB’s heavy workload and the staff’s difficulty managing it).

¹¹⁴ *Id.* ¶¶ 10–11.

way to address failure to comply? Starting from the hypotheses that a project would not promote “sustainable development” in the host country and that the sustainable development criterion had been agreed upon, different sanctions could be imagined. These include non-issuance of CERs, a diminished number of CERs, and a fine imposed on the developer, host country, or individual DOE.¹¹⁵

All these sanctions are financial because it seems inapplicable and irrelevant to simply exclude one host country from the benefit of the CDM system based on the fact that it would have accepted a project that does not address sustainable development, or to exclude an investor from implementing further projects for the same reason. A financial sanction is surely the best way to ensure compliance of the project. However, the first two sanctions, applied after the project starts, probably create too strong of a disincentive for investors, leading them to choose not to implement any projects rather than risk the loss of the financial benefit of CER. Moreover, it would be difficult to assess the real impact of the project before it runs for several years and the calculation of the diminished amount of CER could ultimately be criticized for being discretionary. The third sanction—a fine—which would be applied after the project has already had an impact on the environment, could accurately evaluate social improvement and poverty alleviation, and would therefore be more feasible. The oversight of the EB and its power to sanction would ensure that the project is and remains focused on poverty alleviation after a few years of implementation. The concrete effects of the project could be measured.

The amount of the fine should be determined with precaution; it should be based on the value of the project and the degree of the project’s noncompliance and it should be high enough to serve as a deterrent, yet low enough to prevent investors from withdrawing from the CDM scheme. The problem with this solution, however, is that the project would run for several years, depriving the poorest populations of benefits, before being condemned. Even if the fine amounts were ultimately redistributed to the most vulnerable populations wronged by the CDM project, the objective of sustainable development and poverty eradication would not be achieved solely with the CDM. By any means, given the difficulties of reaching an agreement on measurement, reporting, and verification, even self-verified measures,¹¹⁶ it seems unlikely that the Parties would agree to include a power of sanction in the mandate of the EB or the Secretariat.

¹¹⁵ For additional sanction suggestions, see CDM WATCH, *supra* note 81, at 5 (suggesting a variety of sanctions, including suspending DOEs that fail three times to meet key requirements of the CDM and requiring DOEs to replace CERs issued in excess when nonconformities are detected after registration).

¹¹⁶ See Jan von der Goltz, *High Stakes in a Complex Game: A Snapshot of the Climate Change Negotiating Positions of Major Developing Country Emitters* 11–13 (Ctr. for Global Dev., Working Paper No. 177, 2009) (describing the wide disparity of views among countries on the best way to measure and report, including disagreements over whether it should be conducted by national or international authorities).

b. Lowering the “Additionality” Test

Some have recommended lowering the additionality requirements for certain projects, certain countries, and certain periods to adjust the distribution of CDM.¹¹⁷ This may a priori seem tempting but the outcome may not result in a greater consideration of the poorest countries and the poorest populations. The additionality test is a way to ensure environmental integrity, though not always effectively, as demonstrated above.¹¹⁸ Rather, it would be better to have an organ at the United Nations assess the additionality. A standardized test could however be implemented for the LDCs to lower the administrative costs of CDM. Some have suggested the establishment of a positive list of projects that would not be required to pass the additionality test;¹¹⁹ this exemption would apply to “certain project types, in certain countries, and for a certain period of time.”¹²⁰ Such an approach would allow an adjustment of the CDM distribution, both geographically and activity-wise. However, major obstacles would still have to be overcome; for example, who would determine this list and based on what criteria? Such an approach would likely create the same problem posed by the effort to develop a common definition for “sustainable development.” For example, the geographical focus of this positive list could be easily effectuated by comparing the number of projects historically implemented in each country and allowing the less favored countries to be part of this list, or by including all countries as part of predetermined groups such as the LDCs or the SIDS, or by reference to other factors, such as GDP or the percentage of the population living below the poverty level. The kind of activities to be included in such a list would, however, be more controversial. Each country has different expectations of the CDM.¹²¹ While poverty alleviation is a concern for all developing countries, so too is economic growth, even if a

¹¹⁷ CDM Executive Board Agenda, *supra* note 42, at 3 (describing at (c) how “additional” should also be considered for specific cases depending on project type, individual countries, and discrete periods of time).

¹¹⁸ *See supra* Part II.B.3.a.

¹¹⁹ *See* Letter from Steven Kaufman, Principal Consultant, Sunrise Techs. Consulting, LLC, to Haus Carstanjen, Secretariat, U.N. Framework Convention on Climate Change 2 (Apr. 12, 2010) (on file with recipient), *available at* http://cdm.unfccc.int/public_inputs/2010/additionality_ren_nrj/cfi/DP4S5URGWXKF6K0C9IRIPQGHG4LNE9 (urging the EB to establish a “positive list, specifying, inter alia, technology applications considered additional to business as usual because they face barriers that generally prevent their implementation without measures to overcome the barriers”).

¹²⁰ CDM Executive Board Agenda, *supra* note 42, at 3.

¹²¹ *See, e.g.*, AFRICAN BIODIVERSITY NETWORK ET AL., THE CDM AND AFRICA: MARKETING A NEW LAND GRAB 3–4 (2011), *available at* http://www.africanbiodiversity.org/system/files/PDFs/CDM%20Report_Feb2011_lowres.pdf (discussing the wealth and development desired in Africa, with an emphasis on the use of its wide-open spaces and the attendant problems); MICHAEL POLLAN, OPPORTUNITIES FOR GHG MITIGATION IN LATIN AMERICA: CARBON FINANCE AND THE CLEAN DEVELOPMENT MECHANISM 5–8 (2005), *available at* <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=1481598> (discussing Latin America’s concern with finding funding opportunities).

focus on the latter would mean less impact on poverty eradication.¹²² Moreover, additionality depends more on the concrete circumstances of the project than on predefined characteristics.¹²³

Some non-governmental organizations, such as CDM Watch, have suggested the adoption of a “negative” list of projects that would be unlikely to meet the additionality test.¹²⁴ CDM Watch advises that “[t]his negative list should include large hydro power plants since hydropower is a widespread technology that does not need additional support to be built. Moreover, large hydropower projects often have high and sometimes devastating social and environmental costs” and, thus, provide further justification for their inclusion on the “negative” list.¹²⁵

However, the same problem arises as for the positive list. The determination of additionality must be made in accordance with the circumstances of the project. As CDM Watch states itself, “large hydropower projects often have high and sometimes devastating social and environmental costs.”¹²⁶ It is a general feature of these projects that is *often* noticed, but not systematically. Excluding a project based on this common assumption could also lead to the exclusion of a small number of projects that could be very beneficial to the most vulnerable people.

c. Changing the Criteria of Sustainable Development to a Broader, More Controllable Criterion-Analysis of the “Gold Standard” Proposal

The Gold Standard was established by a small group of non-governmental organizations, including the World Wildlife Fund, to promote the sustainable development aspect of the CDM.¹²⁷ As viewed by the UNDP,

The ‘Gold Standard’ . . . represents the first independent best practice benchmark for the CDM and Joint Implementation (JI) greenhouse gas offset projects. It offers project developers a tool to ensure that the CDM and JI deliver credible projects with real environmental benefits and, in so doing, give confidence to host countries and the public that projects represent additional investments in sustainable energy services.¹²⁸

¹²² See Wara, *supra* note 70, at 1764 (noting that the majority of CDM projects in the developing world have gone to countries that are growing most quickly, thus allowing economic growth to trump poverty eradication in terms of project distribution).

¹²³ See *Wuppertal Inst. Final Rep.*, *supra* note 11, at 20 (2009) (emphasizing that additionality can never be a wholly objective exercise); *id.* at 113–15 (providing an example of a project-specific additionality assessment in China).

¹²⁴ CDM WATCH, *supra* note 81, at 3.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ World Wildlife Fund, Gold Standard, http://wwf.panda.org/what_we_do/how_we_work/businesses/climate/offsetting/gold_standard/ (last visited July 17, 2011) (listing the creators and defining the Gold Standard as “an independently audited, globally applicable best practice methodology for project development that delivers high quality carbon credits of premium value along with sustainable development co-benefits associated with the projects”).

¹²⁸ ENERGY & ENV’T GRP., *supra* note 2, at A-11.

To meet the Gold Standard, eligible projects must be in the renewable energy sector, or energy efficiency sector, and an additionality test is used to assess whether the project would have happened without a CDM.¹²⁹ This criterion once again shows the importance of the additionality requirement to ensure environmental integrity of the project. The project's contribution to social improvement and sustainable development is also verified. The project developer must first apply the UNDP safeguards principles, which include human rights, environmental protection, labor standards, and anti-corruption measures.¹³⁰ Then the developer must provide a social and environmental impact assessment and a sustainability-monitoring plan.¹³¹

What are the benefits of the Gold Standard? The host country of a Gold Standard certified project receives long-term benefits from the project, and such certification "give[s] confidence to host countries and the public that projects represent additional investments in sustainable energy services."¹³² Though the projects and developers that meet the Gold Standard's criteria do not receive extra credit or more investment opportunities, they can benefit from the network of the Gold Standard Organization to sell their credits. They can use a logo indicating that their project has received the Gold Standard certification and can advertise that fact.¹³³ These incentives are, however, minor, and probably explain the low number of Gold Standard certified projects listed.¹³⁴ It is interesting to point out that the majority—105 projects, or 57%—of these projects, although applying the Gold Standard and being focused on sustainable development, are implemented in Brazil, South Africa, India, China, and Mexico.¹³⁵ Once again, the distribution of CDM projects, even if they are oriented towards social improvement and poverty eradication, is unequal and fails to reach the poorest countries and people.

2. Stage of Implementation

a. Constraining the Issuance of CER

One solution could be to limit more drastically the amount of CER that can be generated by CDM projects. Currently, in Europe for instance, the Directive 2004/101/EC allows operators of the Member States to use

¹²⁹ *Wuppertal Inst. Final Rep.*, *supra* note 11, at 49, 51 (noting the types of projects that are eligible under the Gold Standard and the additionality test required).

¹³⁰ *Id.* at 14 (noting that under the Gold Standard, the UNDP safeguarding principles must be applied); *id.* at 51–52 (describing the UNDP safeguarding principles and outlining the different categories in table 8).

¹³¹ *Id.* at 53.

¹³² ENERGY & ENV'T GRP., *supra* note 2, at A-11; *see also Wuppertal Inst. Final Rep.*, *supra* note 11, at 49 (noting the long-term benefits that flow to a CDM host country such as local sustainable development and investment in renewable energy not based on fossil fuels).

¹³³ Gold Standard Foundation, Benefits of GS Certification, <http://www.cdmgoldstandard.org/Benefits-of-GS-Certification.116.0.html> (last visited July 17, 2011).

¹³⁴ GOLD STANDARD FOUNDATION, GOLD STANDARD CDM/JI PROJECTS (2010), <https://gs1.apx.com/myModule/rpt/myrpt.asp?r=113> (last visited July 17, 2011) (listing 183 projects as of April 2011, and an even smaller number of registered and validated projects at thirty-five as of March 2011).

¹³⁵ *Id.*

reduction units as well as CERs, within a limit of a percentage of their respective allowances.¹³⁶ In France, for example, operators can use a maximum amount of CERs, up to 13.5% of France's allowance.¹³⁷ Limiting the amount of CER would probably actually favor the GHG emission reductions, by limiting the amount of controversial non-additional projects and by giving more time to the EB to exercise more than a purely formal control over the project. However, the amount of CER actually traded on the markets is only a very small portion of the total amount offered for sale.¹³⁸ It would be thus useless to set forth such a solution without modifying the structure and functioning of the EB.

Another way of constraining the issuance of CER would be to impose on Annex I Countries the obligation to get a certain percentage of the CERs issued from "highly" sustainable projects. This idea seems the most functional in theory. Annex I Countries could take commitments to favor some kind of projects, and Non-Annex I Countries could also decide, under the supervision of the UNFCCC, to develop a particular type of project on their territories. However, this would require a sharp definition of sustainability and high sustainability and would necessitate the overview of the project by an unbiased third party—not the project developer, not the DOE, and not the host country. For the reasons stated above—the quasi impossibility to obtain a commonly agreed definition of sustainable development,¹³⁹ and the lack of financial and personal resources of the host countries to approve the projects¹⁴⁰—this solution would be, in the current situation, irrelevant.

b. Applying a Coefficient to CERs Issued from Certain Projects (Country or Industry) that Favor the Poorest Populations

It has been suggested that a coefficient be applied to CER issued from certain projects that are implemented in predetermined countries, and then to multiply the amount of CER in order to promote those projects that favor the poorest populations.¹⁴¹ Although it would certainly create a good incentive for investors to develop projects in the forgotten countries, a coefficient applied to the CERs issued according to the kind of project would in fact render this system more harmful than beneficial.

According to this suggested adaptation of the CDM framework, if a given project impacts social and poverty alleviation in the host country, a

¹³⁶ Council Directive 2004/101, art. 5, 2004 O.J. (L 338) 18–20 (EC).

¹³⁷ Ministère de l'Ecologie et du Développement Durable, République Française, *Projet de Plan National d'Affectation: Des Quotas d'Emission de Gaz A Effet de Serre (PNAQ II) (Période: 2008 à 2012)*, at 26 (Apr. 20, 2007).

¹³⁸ KARSTEN NEUHOFF, CARBON PRICING FOR LOW-CARBON INVESTING 6 (2011), available at <http://www.climatepolicyinitiative.org/files/attachments/88.pdf>.

¹³⁹ See *supra* text accompanying notes 68–75.

¹⁴⁰ See *supra* text accompanying notes 85–89. Only a small portion of the developing countries were first able to establish a DNA—only nine of more than seventy developing countries that have ratified the Kyoto Protocol as of March 2004. CARBON FINANCE BUSINESS, *supra* note 92.

¹⁴¹ CDM Executive Board Agenda, *supra* note 42, at 3.

coefficient should be applied at the issuance of the CERs, so that they would therefore be valued more.¹⁴² For example, if a multiplying coefficient was applied to the equivalent of one metric ton of reduced carbon dioxide (CO₂), a given project might be allowed to issuance of 1.20 or 1.30 CER. This would be prima facie a good incentive to investors, who would be able to compensate the low amount of CO₂ to be reduced in the LDCs, SIDS, and Africa, and who would find an economical balance between the money invested and the outcome of it. However, this system would likely fail the very first goal of the Kyoto Protocol, that of reducing GHG emissions.¹⁴³

The investors would indeed sell on the carbon market more emission allowances than actual emission reductions, and thus allow the carbon credit buyers to acquire more credits than actually allocated overall. It could be possible to imagine a minus coefficient applied to projects less focused on sustainable development and poverty eradication, in order to balance the amount of credits available on the carbon markets. However, this scheme would require not only a very complex calculation of the credits issued with a minus or bonus coefficient,¹⁴⁴ but also the imposition on investors, on an aggregate scale, to invest in a set amount of bonus coefficient projects and a set amount of minus coefficient projects at the same time, in order to achieve balance.

B. How to Redesign the CDM to Tackle Poverty?

In addition to modifying the mechanism and the framework of the CDM to better address the poorest countries' expectations of the CDM, financial resources must be incorporated to supplement the current system. Adaptation to climate change and transition to a greener and more sustainable economy will require not only political support both from developed and developing countries, but also strong financial support.

Stanford University Professor, Michael Wara, has suggested the creation of an international fund to supersede the current CDM system.¹⁴⁵ He suggests that this fund be based on the model of the Multilateral Fund for the Implementation of the Montreal Protocol.¹⁴⁶ This fund, to which developed countries contribute, provides financial assistance to developing countries in the phasing-out of the use of ozone-depleting substances (ODS).¹⁴⁷ The fund acknowledges the common but differentiated responsibilities of all countries in the depletion of the ozone layer.¹⁴⁸ The

¹⁴² See *Wuppertal Inst. Final Rep.*, *supra* note 11, at 204–05 (explaining multiplication and discount features under the CDM and how they can be used to promote desired projects).

¹⁴³ See Kyoto Protocol, *supra* note 3, at art. 2, ¶ 1–1(a)(viii), art. 3, ¶ 1.

¹⁴⁴ *Wuppertal Inst. Final Rep.*, *supra* note 11, at 22.

¹⁴⁵ Wara, *supra* note 70, at 1765, 1801.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*; see Montreal Protocol on Substances that Deplete the Ozone Layer art. 10, Sept. 16, 1987, 1522 U.N.T.S. 3 (describing how Parties shall cooperate and promote technologies to assist each other).

¹⁴⁸ Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol, About The Multilateral Fund: Overview, <http://www.multilateralfund.org/aboutMLF/default.aspx> (last

fund delivers financial and technical assistance to developing countries enabling them to comply with their ODS reduction commitments as set forth in the Montreal Protocol, by having the developed countries bear “any additional costs incurred by developing countries in transitioning away from ODSs to new, ozone-friendly chemicals.”¹⁴⁹ The fund, created about twenty years ago,¹⁵⁰ has proven to be successful, with more than 6,700 projects supported—as of December 2010—and with a total reduction of more than 459,910 tons of ODS.¹⁵¹

For Professor Wara, a climate fund is the real alternative to the CDM.¹⁵² However, if modeled after the Multilateral Fund for the Implementation of the Montreal Protocol (Multilateral Fund), the climate fund advocated by Professor Wara would suffer the same defaults as the ones pointed out in the CDM framework. The Multilateral Fund sets criteria for the approval of projects, including those “with potential for the most cost-effective and efficient reduction in the emission of controlled substances.”¹⁵³ Yet no single criterion holistically considers sustainable development.¹⁵⁴ The fund suggested by Professor Wara would therefore provide no guarantee regarding poverty alleviation. It would obviously help developing countries transition to technologies emitting less GHG, but would not necessarily link the projects to poverty eradication in order to address the needs of the most vulnerable populations. The Multilateral Fund, just as the CDM scheme, gives competence to the host country for the approval of the project¹⁵⁵ and creates no incentive to invest in projects impacting poverty.

Financial mechanisms dedicated to sustainable development and poverty alleviation are already in place under the authority of the World Bank. Beginning in 1999 with the Prototype Carbon Fund,¹⁵⁶ the World Bank later developed more funds, including the Community Development Carbon Fund (CDCF),¹⁵⁷ the BioCarbon Fund,¹⁵⁸ the Italian Carbon Fund,¹⁵⁹ and the

visited July 17, 2011) (articulating the agreed upon principle that countries will work to protect and manage the global commons).

¹⁴⁹ Wara, *supra* note 70, at 1801.

¹⁵⁰ Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol, *supra* note 148 (stating that the Multilateral Fund was established in 1990).

¹⁵¹ U.N. Multilateral Fund Secretariat, Welcome to the Multilateral Fund for the Implementation of the Montreal Protocol, <http://www.multilateralfund.org/default.aspx> (last visited July 19, 2011).

¹⁵² See Wara, *supra* note 70, at 1801–03.

¹⁵³ U.N. MULTILATERAL FUND SECRETARIAT, MULTILATERAL FUND FOR THE IMPLEMENTATION OF THE MONTREAL PROTOCOL: POLICIES, PROCEDURES, GUIDELINES AND CRITERIA 279 (2010), available at <http://www.multilateralfund.org/files/Policy61.pdf>.

¹⁵⁴ See *id.*

¹⁵⁵ *Id.*

¹⁵⁶ World Bank Carbon Fin. Unit, About Prototype Carbon Fund (PCF), <http://wbcarbonfinance.org/Router.cfm?Page=PCF&FID=9707&ItemID=9707&ft=About> (last visited Mar. 28, 2011).

¹⁵⁷ World Bank Carbon Fin. Unit, About Community Development Carbon Fund (CDCF), <http://wbcarbonfinance.org/Router.cfm?Page=CDCF&ft=About> (last visited Mar. 28, 2011).

¹⁵⁸ World Bank Carbon Fin. Unit, BioCarbon Fund, <http://wbcarbonfinance.org/Router.cfm?Page=BioCF&ItemID=9708&FID=9708> (last visited Mar. 28, 2011).

Spanish Carbon Fund.¹⁶⁰ The CDCF particularly targets poverty.¹⁶¹ It unites donors from both the public and private sectors, nine governments, and sixteen corporations, and promotes projects with a special focus on social benefits.¹⁶² This fund specifically addresses the poverty issue by encouraging investors to carry out “small scale projects that measurably benefit poor communities and their local environment.”¹⁶³ Established in 2003, the fund has however only contributed to the implementation of thirty-three projects as of April 2010.¹⁶⁴ Further, the fund can be criticized extensively for its partiality and inefficiency,¹⁶⁵ *inter alia*, because of its “schizophrenia”¹⁶⁶ in promoting sustainable development and poverty eradication on the carbon market while supporting fossil-fuel industries at the same time under the influence of northern nations,¹⁶⁷ in sustaining a small number of projects in comparison with the amount of financial support, in its workings with a global network of countries and enterprises,¹⁶⁸ and in its inability to distance itself from the interests of the northern nations and corporations.¹⁶⁹

The funds that the World Bank administers with one government seem to be a better response to these critics. The Spanish Carbon Fund was created in 2005¹⁷⁰ and has already financed twenty projects¹⁷¹ with a capital of \$344 million in U.S. dollars.¹⁷² This fund is surely one of the most active and successful funds created by the World Bank in partnership with a government. It eludes some of the critics, such as the influence of some countries in particular, and has proven to be, on a smaller scale, more

¹⁵⁹ World Bank Carbon Fin. Unit, Italian Carbon Fund, <http://wbcarbonfinance.org/Router.cfm?Page=ICF&ItemID=9710&FID=9710> (last visited Mar. 28, 2011).

¹⁶⁰ World Bank Carbon Fin. Unit, Spanish Carbon Fund, <http://wbcarbonfinance.org/Router.cfm?Page=SCF&ItemID=9714&FID=9714> (last visited Mar. 28, 2011).

¹⁶¹ See World Bank Carbon Fin. Unit, *supra* note 157.

¹⁶² *Id.*

¹⁶³ ADITI SEN, CARBON FINANCE UNIT, WORLD BANK, MAKING CARBON FINANCE WORK FOR THE POOR (2009), available at http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/CDCF_brochure_final.pdf.

¹⁶⁴ *Id.* (stating that the CDCF was established in 2003); CARBON FIN. UNIT, WORLD BANK, 2009 ANNUAL REPORT: CARBON FINANCE FOR SUSTAINABLE DEVELOPMENT 4 (2009), available at http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/11804Final_LR.pdf.

¹⁶⁵ For a critique of both this fund and general World Bank Carbon Policies, see Daphne Wysham, *A Carbon Rush at the World Bank*, DURBAN GROUP FOR CLIMATE JUSTICE, Feb. 2, 2005, <http://www.durbanclimatejustice.org/articles/a-carbon-rush-at-the-world-bank.html> (last visited Mar. 30, 2011).

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ See World Bank Carbon Fin. Unit, *supra* note 157 (discussing financial and organizational support); World Bank Carbon Fin. Unit, Community Development Carbon Fund Project Portfolio, <http://wbcarbonfinance.org/Router.cfm?Page=CDCF&ft=Projects> (last visited May 25, 2011) (outlining portfolio of about thirty projects).

¹⁶⁹ See Wysham, *supra* note 165.

¹⁷⁰ CARBON FIN. UNIT, *supra* note 164, at 57.

¹⁷¹ World Bank Carbon Fin. Unit, Spanish Carbon Fund Project Portfolio, <http://wbcarbonfinance.org/Router.cfm?Page=SCF&FID=9714&ItemID=9714&ft=SCFProjectsT1> (listing twenty projects in the Spanish Carbon Fund portfolio).

¹⁷² CARBON FIN. UNIT, *supra* note 164, at 60 (listing \$217 million in active projects and \$127 million in pipeline projects).

efficient than the CDM. This kind of fund could be a global response to the drawbacks of the CDM system, and supplement rather than supersede the CDM, provided that all Annex I Countries implemented such a financial mechanism. However, to date, only the Spanish,¹⁷³ Italian,¹⁷⁴ Danish,¹⁷⁵ and Dutch¹⁷⁶ governments have taken such a step and unless more governments, and especially large GHG emitters such as the United States, imitate them, this can only be a temporary and incomplete answer.

With a number of flaws and a failure to alleviate poverty, the CDM system could obviously be improved. What if the real solution to address poverty eradication actually came from the directly concerned countries? The Annex I Countries, the World Bank, and the EB can reform the current scheme, but those best able to analyze and design a mechanism, whether purely financial or market-based, are the poorest nations and the poorest communities. Who can better assess the needs and the responses? And what if the solution had already been put on the table? A fund called the Clean Development Fund was envisioned by developing countries upon a proposition from Brazil at the dawn of the Kyoto negotiations.¹⁷⁷ It would have relied on the polluter pays principle and would have urged the developed countries to comply with their Kyoto Protocol commitments.¹⁷⁸ Failure to do so would have triggered a financial obligation, and obliged the non-complying parties to contribute to the fund.¹⁷⁹ This fund would then have contributed to sustainable development in the poor and poorest countries and would have helped to alleviate poverty.¹⁸⁰ This would have had the same effect as the financial sanctions discussed above, and would have been a major incentive to reduce GHG emissions as well as to tackle poverty. This fund was, unfortunately, eventually abandoned and translated into a market-based mechanism during the negotiations under the impulsion of the northern countries, especially the United States.¹⁸¹ Thus, the CDM scheme was born. At a time when all governments, civil society organizations, and companies are wondering about the future of CDM, the worldwide poverty issue, and the “post-Copenhagen” regime, it may be time to remember the “pre-Kyoto” world to finally link two of the most tragic and vital issues of our generation—climate change and poverty.

¹⁷³ World Bank Carbon Fin. Unit, *supra* note 160.

¹⁷⁴ World Bank Carbon Fin. Unit, *supra* note 159.

¹⁷⁵ World Bank Carbon Fin. Unit, Danish Carbon Fund, <http://wbcarbonfinance.org/Router.cfm?Page=DCF&ItemID=9713&FID=9713> (last visited Mar. 17, 2011).

¹⁷⁶ World Bank Carbon Fin. Unit, Netherlands European Carbon Facility, <http://wbcarbonfinance.org/Router.cfm?Page=NECF&FID=9712&ItemID=9712> (last visited Mar. 17, 2011).

¹⁷⁷ Wysham, *supra* note 165.

¹⁷⁸ *Id.*

¹⁷⁹ Int'l Energy Studies Grp., Clean Development Mechanism, <http://ies.lbl.gov/CDM> (last visited Mar. 17, 2011).

¹⁸⁰ *Id.*

¹⁸¹ Wysham, *supra* note 165.