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Judging Treaties

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from a legal point of view. A great deal of excellent work has been done in projects implementing the work programs of these conventions. The Global Environment Facility (GEF) alone has facilitated the commitment of some \$6 billion to biodiversity conservation projects, including some \$2 billion of its own resources. In 2005 the Third Overall Performance Study of the GEF concluded that it has reduced the loss of biodiversity. The International Union for the Conservation of Nature has also concluded that the GEF has supported protected area investments that constitute almost 17 percent of the total land area protected globally. But, remember, we are talking about the role of *law* and *legal* solutions.

Unlike ozone depletion and, to a lesser extent, climate change, the causes of biodiversity loss are multi-faceted. The majority of them relate to activities that take place in areas under national jurisdiction and are often closely linked to other issues such as climate change and burgeoning human demands on natural resources, water, and habitat. Both conventions have commanded high rates of accession and the constituent legal instruments have played an important organizational or managerial role in setting out the key aspects of the important agenda. However, we do not yet have the beginnings of the equivalent of a Kyoto Protocol. We are still waiting for detailed Protocols with national commitment targets on the most pressing areas of biodiversity conservation, including protected areas, forests, and marine resources. And, there are other examples.

Looking towards 2050, there is a great deal that must be done relatively quickly—within the next 10–20 years. The developing world is demanding energy. Over 1.6 billion people lack access to electricity, and 2.4 billion still rely on biomass for cooking and heating—the collection of which is often itself a threat to habitats and biodiversity and the burning of which is unhealthy. In Africa only 20% of the population is connected to an electricity grid, and supplies are often unreliable and erratic. More than \$200 billion of investments in energy infrastructure are made annually and this infrastructure will last for 30–40 years. Hamilton and Johnson suggest that the equivalent of 1,000 large electric power plants will need to be built *each year* to meet demand through 2050. The challenge is to ensure that these huge investments are environmentally friendly and, in particular, low carbon. This will require technology innovation and financing, from the public as well as the private sector, and often in partnership because the private sector cannot be expected to deliver global public goods by itself. It will also require a partnership between the North and the South. The 2002 Monterrey Summit on Finance for Development represented an important start but, as the Stern Review indicates, the scale of action needed is far higher than the Monterrey targets of 0.2 % of GDP in rich countries. The issue is essentially not about aid but mutual self-preservation.

International law has the potential to play a major role in this agenda, but experience shows how important it is that the major developed countries—including the United States—act together in addressing these issues.

JUDGING TREATIES

*By Lakshman Guruswamy**

We were requested by our chair, Professor Setear, to offer two examples of international environmental treaties: a success and a failure. My illustration of a failed treaty is the Kyoto Protocol which has generally been acclaimed as a success. Indeed one of my co-panelists

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cites Kyoto as his example of a successful treaty. It behooves me, therefore, to make the case against Kyoto somewhat more completely than might otherwise be the case, and constrains me to deal only with the Kyoto Protocol.

PREDICATES

Since success and failure may be predicated on differing and perhaps contradictory criteria, it may be useful to delineate the core indicia on which my selection has been based. The first relates to the correct identification and *diagnosis* of the problem or issue that an international environmental treaty purports to address. Over the last fifty years, international law has become a dynamic instrumentalist social force addressing a wide range of socio-economic, sociopolitical, and biophysical challenges through bilateral, regional, and global treaties. Many treaties are functional, instrumentalist social forces, and contemporary international law now includes a formidable corpus of treaties dealing, for example, with labor, human rights, health, intellectual property, taxation, the environment, and energy. These treaties establish articulated and implied goals and objectives, and some of them create new institutions. The first criterion used in my selection will be the degree to which the full extent of the problem, in all its complexity, is accurately identified. When dealing with a complex challenge, the diagnostic dimension of a treaty should recognize and not gloss over the panoply of difficulties presented by it. This is an essential starting point for confronting and addressing those problems.

Second, following upon the correct diagnosis, treaties should embody *prescriptions* aimed at the core of the problem, and deal with the sources of the malady. They should not skirt around the challenge or be directed to symptoms rather than the cause. Prescriptive remedies should accurately target the sources and the substantial remedies they prescribe should include methods of implementation and compliance. Where behavioral changes are necessary, the treaty should be directed toward eliciting behavioral changes among offending states. In order to secure behavioral change functional, goal-oriented treaties should be able to command and induce compliance through compliance securing architecture, and methods that both effectively and beneficially impact the problems addressed by them.¹

Third, the remedies and methods employed by a treaty should have a demonstrably beneficial impact on the problem and help move the treaty toward the practical attainment of its goals and objectives. In the environmental and energy arena, even the hitherto limited inquires about compliance with international treaties addressing complex problems have been theoretical. They have been confined to two questions. First, has international law been *implemented*? Meaning, has it been incorporated into domestic law through legislative, judicial, or executive action. This will hereinafter be referred to as formal implementation. Second, to what extent have countries *complied* with a treaty? Meaning, have they adhered to its provisions, and deployed the formal implementing machinery established by it.² This will be referred to as formal compliance.

The real success of a treaty, however, depends on more than the formal acceptance of legal obligations; it lies in its *effective implementation* (hereinafter *effectiveness*).³ *Effectiveness* refers both to the extent and manner in which a treaty has achieved its goals. A treaty which

¹ See Jose E. Alvarez, *Why Nations Behave*, 19 MICH. J. INT'L L. 303, 305 (1998).

² See DINAH SHELTON, *COMMITMENT AND COMPLIANCE* (2000); EDITH BROWN WEISS & HAROLD JACOBSON, *ENGAGING COUNTRIES: STRENGTHENING COMPLIANCE WITH ENVIRONMENTAL ACCORDS* (1998).

³ See M. A. Fitzmaurice & C. Redgwell, *Environmental Non-Compliance Procedures and International Law*, 31 NETH. Y.B. INT'L L. 35 (2000).

aims low and achieves little could nonetheless be effectively implemented. As a whole a treaty containing demanding prescriptive remedies may be adjudged more favorably than one that does not, but effectiveness for the purposes of this essay is a more limited concept. The effectiveness of a treaty, therefore, is not based on the depth of its commitments or the extent to which it addresses the problem that called for legal remediation. For example, some unfavorably judged treaties may contain shallow commitments or inadequate goals, or fail to address tough issues.⁴ They do not have a significant impact on the problem or do not result in behavioral changes. It is possible that such treaties reiterate what states would have done anyway, or require only minimal changes that do not significantly affect the underlying problem. Nonetheless, once they are negotiated, agreed to and come into force, they become part of the corpus of international law even if they flunk the test of good prescription. They could be implemented effectively despite their very limited or modest goals.

This brings up the *impact* of a treaty on the underlying issue.⁵ This is perhaps the most important criteria for determining the success or failure of a treaty. By impact, I mean the extent to which a treaty has solved or made significant steps toward solving the problem it confronted. The extent of its beneficial impact will depend on the degree to which a treaty institutionalizes tough and serious objectives, as distinct from shallow, inadequate, or inconsequential objectives. Furthermore, it should embody compliance-eliciting methods and measures that are directed toward changing state behavior. Consequently, the impact of a treaty will depend on the nature of its goals or objectives, its methods, and the extent to which it succeeds in changing state behavior. It is important, therefore, to understand a treaty not only in terms of its *effectiveness* in achieving stated goals, but also in terms of its *impact* as a satisfactory response to the challenge addressed and the degree to which it changes state behavior.

When dealing with *effectiveness* and *impacts* it is important to identify the goals of a treaty and to compare such goals with the results produced. It is also necessary to inquire about the depth of these goals and the extent to which they did or did not remedy the problem being addressed. Where the results, garnered from empirical data and evidence, do not match goals, or point to the inadequacy of those goals, questions may arise as to the reasons for such shortfalls. For as noted above, it is possible for shallow commitments and modest goals to reflect what countries are already doing rather than what is needed to address the problem at hand. Such an inquiry must traverse institutions, compliance methods, enforcement, as well as the socioeconomic, political, or cultural context that might explain the gaps between the goals of a treaty and the inability to meet them, or the meagerness of the goals and the ease with which they were met.

There is a substantial body of literature on “effectiveness.”⁶ However, these otherwise theoretically illuminating contributions do not include any authoritative conclusions based on comprehensive empirical examination of compliance, effectiveness, or impact of energy

⁴ See George W. Downs et al., *Is the Good News About Compliance Good News About Cooperation?*, 50 INT'L ORG. 379, 383 (1996).

⁵ Kal Raustiala, *Compliance & Effectiveness in International Regulatory Cooperation*, 32 CASE W. RES. J. INT'L L. 387, 393–94 (2000). Although Raustiala conflates the two concepts, this article draws a distinction between effectiveness and impact. It is possible that while a treaty might have a negligible impact on the underlying problem, it is nonetheless part of a broader response to the problem that, when considered in its entirety, exerts a far more meaningful impact. To the extent this is the case, the treaty should, in the evaluative rubric set forth here, be self-identified as part of this larger and ostensibly coordinated response.

⁶ ABRAM CHAYES & ANTONIA HANDLER CHAYES, *THE NEW SOVEREIGNTY* (1995); THOMAS M. FRANCK, *FAIRNESS IN INTERNATIONAL LAW AND INSTITUTIONS* (1995); Downs et al., *supra* note 4; Harold Hongju Koh, *Why Do Nations Obey International Law?*, 106 YALE L.J. 2599, 2603 (1997); Oran R. Young et al., *Regime Effectiveness: Taking Stock*, in *THE EFFECTIVENESS OF INTERNATIONAL ENVIRONMENTAL REGIMES* 249 (Oran R. Young ed., 1999).

and environmental agreements.⁷ The impressive study by Weiss and Jacobson was based on five treaties.⁸ This is primarily because of the absence of comprehensive and organized empirical evidence or data.

In judging the success or failure of a treaty, the importance of empirical evidence backing any such claims cannot be overemphasized. The absence of such data renders any judgment more impressionistic than objective.

FLAWED DIAGNOSIS OFFERED BY THE KYOTO PROTOCOL

Mistaking Symptoms for Cause

Kyoto offers the wrong diagnosis. First, its exclusive focus on greenhouse gas (GHG) emissions produced by the burning of fossil fuels treats the symptoms not the cause. Because greenhouse gas emissions (of primary relevance here is carbon dioxide) result from burning fossil fuels (or hydrocarbons) such as oil, gas, and coal, Kyoto should have aimed at institutionalizing laws and policies for obtaining and securing renewable and sustainable energy to replace global warming causing hydrocarbons. Instead, all Kyoto did was to control emissions of GHGs.

The fact that 85% of the burgeoning energy needs of the world are now, and will continue through the next thirty years to be based on hydrocarbons, means that carbon dioxide emissions will continue to increase unless two strategies addressing the supply and demand side are in place.⁹ On the supply side, alternative fuels must be found, while the demand side should establish energy conservation and efficiency. Kyoto almost totally ignored these two courses of action.

Kyoto did make a passing reference to energy efficiency.¹⁰ These provisions were almost hermetically sealed from the rest of the treaty and, unlike the controls on GHGs, implementation of these provisions was left to the conference of the parties who were only empowered so that they “may take” action to implement the efficiency and sustainable energy provisions of Kyoto. The cursory treatment of alternative fuels and technologies is to be contrasted to the elaborate machinery constructed to track carbon dioxide. That machinery consists of an advanced system of compliance overseen by a Compliance Committee divided into facilitative and enforcement branches.¹¹

Ignoring Related Problems

Second, the Kyoto Protocol failed to diagnose and address a number of intrinsically interconnected issues. We live in a civilization built on oil, and we are dependent upon oil for our most important life support systems from transport, food and agriculture, health and medicine, technology, to military security. According to one estimate, world energy

⁷ THE IMPLEMENTATION AND EFFECTIVENESS OF INTERNATIONAL ENVIRONMENTAL COMMITMENTS: THEORY AND PRACTICE, at ix (David G. Victor et al. eds., 1998).

⁸ See WEISS & JACOBSON, *supra* note 2 and accompanying text.

⁹ EIA, International Energy Outlook 2006, Highlights 1–2 (2006), available at <<http://www.eia.doe.gov/oiaf/ieo/index.html>>.

¹⁰ Kyoto Protocol, Art. 2(1)(a)(I). This included references to research, development, and increased use of new and renewable forms of energy, carbon dioxide sequestration technologies, and advanced and innovative environmentally sound technologies. Art. 2(1)(a)(iv).

¹¹ *Id.*, Arts. 4–11.

consumption is predicted to increase 71% from 2003 to 2030. During this period, world oil use grows from 80 million barrels per day in 2003 to 98 million barrels per day.¹²

Our civilization, which is built on a finite resource—oil, is facing the peaking, diminishing, and eventual scarcity of that natural resource. The “peaking of oil” refers to the fact that new discoveries of oil hitherto have enabled oil supply to stay ahead of demand. However, the increasing demand for conventional oil will reach a point where oil supply will no longer be able to meet demand. At this point, world oil supply will peak and begin to decline. Unfortunately this is the time when world demand for oil will be increasing at a massive rate. The compelling need for substitute sources of energy to replace oil offers strong reasons, independent of global warming, for focusing on energy rather than carbon dioxide.

In 2000, the U.S. Geological Survey (USGS) after the most exhaustive study of existing petroleum reserves, projected future discoveries, extractions from presently abandoned wells, and conventional and unconventional oil resources, estimated there were approximately three trillion barrels of oil in the world. Using this data, the U.S. Energy Information Administration (EIA) advanced the mean or expected scenario and estimated that oil would peak in 2037.¹³ Despite criticisms from both oil pessimists¹⁴ and optimists,¹⁵ this paper adopts the authoritative, unbiased, and comprehensive assessment prepared by the USGS and EIA as the best assessment of peaking oil.

If oil peaks around 2037, it will cripple transportation and crush globalization and trade. Risk management requires that we take remedial action at least twenty years before that happens.¹⁶

Excluding Developing Countries

The third major misdiagnosis of the Kyoto Protocol was to assume that the answers to global warming via carbon dioxide reductions could be found without the active participation of developing countries. The need for developing countries to be involved in the partnership to find alternative sources of energy becomes self-evident in face of the fact that developing (non OECD) countries will be consuming more energy than the OECD countries by 2015.¹⁷ Since developing country reliance on oil will still be around 33% of their total energy use,¹⁸ the stake of developing countries in finding energy solutions, and the duty of developed countries to help do so under common but differentiated responsibility (CBDR) is self evident.

Instead, Kyoto directed developed (annex 1) countries to cut down their GHG emissions by 5% to 7% below 1990 levels between 2008 and 2012, but developing (non annex 1) countries were not bound by these legal restrictions. In so doing, Kyoto appears to be throwing a bone to developing countries, but it is actually excluding developing countries

¹² EIA, *supra* note 9, at 2.

¹³ EIA, Long Term World Oil Supply, available at <http://www.eia.doe.gov/pub/oil_gas/petroleum/presentations/2000/long_term_supply/sld001.htm>. EIA used these findings to develop 12 scenarios for peak oil. They were based on the three USGS predictions of oil reserves (high, expected, and low), and four growth rates (0%, 1%, 2%, and 3%).

¹⁴ ROBERT L. HIRSCH ET AL., PEAKING OF WORLD OIL PRODUCTION: IMPACT, MITIGATION AND RISK MANAGEMENT 69 (2005).

¹⁵ Cambridge Energy Research Associate, Press Release, Peak Oil Theory—“World Running Out of Oil Soon”—Is Faulty; Could Distort Policy & Energy Debate (2006).

¹⁶ HIRSCH ET AL., *supra* note 14, at 69.

¹⁷ 7 EIA, *supra* note 13, at 1–2.

¹⁸ *Id.*

from becoming stakeholders. More strikingly, it has absolved developed countries of their responsibilities under the principle of CBDR.

This non-inclusion of developing countries as partners, and the exemption of developed countries from their duty to search for solutions to the problems of energy and global warming, is a violation of Art. 3(1) of the United Nations Framework Convention on Climate Change (UNFCCC).¹⁹ Art 3(1) of UNFCCC states: “The Parties should protect the climate for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.” Both in its preamble and its substantive principles, the UNFCCC explicitly incorporates the right to sustainable development, and by clear inference and implication, also recognizes the importance of renewable or sustainable energy and new technologies that promote such sources of energy.²⁰ Moreover, UNFCCC affirms that a right to development must entail the greater use of energy among developing countries, and that the ill effects of increased energy use should be offset by energy efficiency as well as new technologies creating sustainable and renewable energy.²¹ Furthermore, it calls for measures that address the causes of climate change²² and for the transfer of technologies, including those dealing with renewable and sustainable energy that prevent emissions of greenhouse gases.²³

Focusing Only on Global Warming and Diminishing Sustainable Development

By focusing only on global warming, Kyoto has thwarted sustainable development among developing countries. It did so by ignoring the need to deal with poverty as a necessary step toward the creation of new sources of sustainable energy. While the energy needs of the developing world will overtake those of the developed world by 2015, large parts of the developing world are desperately poor. The Millennium Development Goals (MDG) of the United Nations identified ten areas that should be addressed before 2015. They included the goals of halving the proportion of the people living on less than one dollar a day, providing primary education, eliminating gender disparity, reducing the mortality rate, improving maternal health, combating AIDS, malaria and other diseases, and reducing by half the number of people without access to safe drinking water. Unlike global warming, these are problems that are killing hundreds even thousands of men, women, and children daily and demand urgent action. CBDR requires developed countries to promote sustainable development (SD) and to weave renewable and sustainable energy into the fabric of SD.

In any rank ordering or risk assessment of the perils posed by poverty as against global warming, it is abundantly clear that poverty is the more important and urgent. Almost 4 million dying from malnutrition (underweight), 3 million from HIV/AIDS, 2.5 million from indoor and outdoor air pollution, more than 2 million from lack of micronutrients (iron, zinc and vitamin A) and almost 2 million from lack of clean drinking water. The Kyoto Protocol would likely cost at least \$180 billion a year but would do little to reduce global warming. UNICEF estimates that just \$70–80 billion a year could give all Third World inhabitants access to the basics like health, education, water, and sanitation.²⁴ Investing these resources

¹⁹ United Nations Framework Convention on Climate Change, May 9, 1992, 1771 UNTS 165.

²⁰ Art. 3(4).

²¹ Art. 4(c).

²² Arts. 3(3), 4(1)(b).

²³ 3 Art. 4(1)(c).

²⁴ UNICEF, *THE STATE OF THE WORLD'S CHILDREN* (2000), available at <<http://www.unicef.org/sowc00/>>.

in developing countries so that some of their basic problems are solved would be an application of the principle of common but differentiated responsibility. Rid of these crippling problems, they could be in a position, with more help from developing countries, to cooperate in finding solutions to the energy challenge.

INADEQUATE IMPACT OF THE KYOTO PROTOCOL

The results and impacts of Kyoto have been poor. Carbon dioxide emissions continue to increase almost inexorably. Already three countries—China, the United States, and India—are planning to build nearly 850 new coal-fired plants, which would pump up to five times as much carbon dioxide into the atmosphere as the Kyoto Protocol aims to reduce.²⁵ Overall, developed countries have not reduced their emissions to anywhere near 5% below 1990 levels as required by Kyoto. Even in the European Union, greenhouse gas emissions rose not fell according to available statistics.²⁶ But assuming Kyoto is fully implemented, computer models based on Kyoto's mandated emission levels, appear, under one viewpoint, to forecast an avoidance of one-twentieth of one degree of the predicted global warming by the end of the century.²⁷ Another view is that the Kyoto Protocol helps only to the extent of a 16% reduction of global warming if that reduction is held stable for the whole of the century.²⁸ But, of course, that is not the case.

A more recent authoritative study concluded that the impact on projected temperature increases, with all countries doing only what is required under Kyoto and then continuing with business as usual, would be a scant 0.06 to 0.11°C (0.11 to 0.20°F) shaved off total warming, which is roughly a 3% reduction.²⁹ The scientific premise and conclusions underlying Kyoto demand far greater carbon dioxide reductions. To abate or avoid catastrophic global warming, advocates for reducing GHGs have argued for reductions in the range of 60–70% below 1990 GHG levels, not the 4–5% called for.

CONCLUSIONS

The reason for the Cinderella treatment meted out by Kyoto to strategies advancing efficiency, conservation, and sustainable energy can only be explained on the basis of a genuine but misconceived fixation on GHG emission reductions by the negotiating parties. The inability of these law-makers to correctly diagnose and prescribe adequate remedies for a monumental global problem may perhaps be attributed to the deafening cacophony demanding GHG reductions—and nothing else—from well meaning albeit misdirected legions of environmentalists, the media, and politicians who managed to lose sight of the crucial fact that GHG reductions in the face of increasing energy demand of this magnitude cannot occur unless there are alternative sources of energy.

²⁵ Mark Clayton, *New Coal Plants Bury "Kyoto,"* CHRISTIAN SCI. MONITOR, Dec 23, 2004, at 1.

²⁶ Richard Ingham, *EU Way Off Course For Meeting Kyoto Targets Say Latest Figures*, June 22, 2006, available at <<http://www.terraily.com>>.

²⁷ Russell Jones, *An Assessment of the Kyoto Protocol*, 11 GEO. INT'L ENVTL. L. REV. 767, 777 (1999).

²⁸ Henry D. Jacoby et al., *Kyoto's Unfinished Business*, 77 FOREIGN AFF. 63, 64 (July/Aug. 1998).

²⁹ Tom Wigley, *The Kyoto Protocol: CO₂, CH₄ and Climate Implications*, 25 GEOPHYSICAL RES. LETTERS 2285 (1998). If, on the other hand, after the Protocol expires, the Annex B countries continued to abide by Kyoto's limits but did not make any new commitments further to cut emissions for the rest of the century, the results were not dramatically different. This "constant compliance" scenario would shave 0.11 to 0.21 degrees Celsius (0.20 to 0.38°F) off global average temperatures by 2100. Stated another way, instead of heating up by 2.5°C (4.5°F), a midpoint in the range of projections of global warming, Earth would warm approximately 6% less.

