

Introduction to Rio + 20: A Reflection on Progress Since the First Earth Summit and the Opportunities that Lie Ahead

Roger Martella

Kim Smaczniak

Follow this and additional works at: <http://digitalcommons.wcl.american.edu/sdlp>

 Part of the [Environmental Law Commons](#)

Recommended Citation

Martella, Roger, and Kim Smaczniak. "Introduction to Rio + 20: A Reflection on Progress Since the First Earth Summit and the Opportunities that Lie Ahead." *Sustainable Development Law & Policy* 12, no. 3 (2012): 4-7, 50.

This Article is brought to you for free and open access by the Washington College of Law Journals & Law Reviews at Digital Commons @ American University Washington College of Law. It has been accepted for inclusion in *Sustainable Development Law & Policy* by an authorized administrator of Digital Commons @ American University Washington College of Law. For more information, please contact fbrown@wcl.american.edu.

INTRODUCTION TO RIO + 20: A REFLECTION ON PROGRESS SINCE THE FIRST EARTH SUMMIT AND THE OPPORTUNITIES THAT LIE AHEAD

by Roger Martella and Kim Smaczniak*

CONVENING IN THE SHADOW OF THE EARTH SUMMIT

The 1992 UN Conference on Environment and Development or, as it is better known, the “Rio Earth Summit,” has become emblematic of the opportunities that can be realized when the international community comes together to discuss seriously the goal of advancing sustainable development. The Earth Summit was the largest gathering yet to address the future of the planet, with representatives of 172 countries, including 108 heads of state and government, coming together over 12 days of negotiations.¹ Some 2,400 NGOs were present at a parallel NGO Forum, and thousands of reporters covered the event on site.² Following the long years of tepid international relations during the Cold War, the Rio Earth Summit marked a change in global affairs, offering the potential for the world to come together in support of a shared vision for the environment of the planet.

The then-Secretariat General of the Rio Earth Summit, Maurice Strong, reflecting on the unparalleled legacy of the Summit even 20 years later, concluded that the negotiators “got agreement beyond what anybody thought was possible.”³ The Summit delivered a series of legal instruments that, even though unbinding, articulated a common set of principles and a path forward relevant to this day: Agenda 21, the Rio Declaration on Environment and Development, the Statement of Forest Principles, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity. Agenda 21 proclaimed a particularly noble purpose, one intended to inspire generations. As “humanity stands at a defining moment of history,” Agenda 21 sought to address “the pressing problems of today and ... to [prepare] the world for the challenges of the *next century*.”⁴

Now, twenty years later, participants and observers to the second United Nations Conference on Sustainable Development in Rio de Janeiro or “Rio+20” have acknowledged the large shoes to fill. The enormity of the first event, and the lofty set of aspirations it established for the world community, lends itself to comparison and stock-taking. How far have we come in addressing those pressing problems identified originally in Rio, and are we prepared for the challenges of the remainder of the century? While the specifics may vary across perspectives and metrics, the larger answer is resoundingly: Not enough. Yet, in today’s economic and political climate, the expectations that Rio +20 will change the status quo and accelerate the pace of progress unfortunately appear moderate at best.⁵

Rio +20, prefaced by a series of meetings and preparatory committee negotiations, commenced June 20 with a three-day Conference in Rio. For this Rio + 20 summit, two themes were the focus: “a *green economy* in the context of sustainable development and poverty eradication” and “institutional *framework for sustainable development*.” At the core of framing the discussions in advance of the Summit, the so-called “Zero Draft” was developed as a 19-page discussion document to guide negotiators toward a final outcome document. The Zero Draft, which largely tracks the two core themes, reaffirms principles established in the Earth Summit and calls for renewed commitment to a number of legal instruments adopted since then. First, in support of a green economy, the Zero Draft calls for creation of a platform to share knowledge related to green economic policy and implementation strategies, and greater support to developing nations, including increased funding, support for green technology transfer, and capacity building. Second, the Zero Draft presents alternative proposals to address the framework for global governance, including a placeholder allowing negotiators to either affirm support for UN Environmental Programme (UNEP) or to establish a new UN agency based on UNEP option to replace the Commission on Sustainable Development with a Sustainable Development Council. Furthermore, beyond the Zero Draft, another key submission identified as a potential outcome of Rio +20 is a commitment to the non-regression principle.⁶ This principle rejects backsliding from previous international commitments and requires governments to commit to ratchet up, not down, environmental protection.⁷

TAKING STOCK: WHERE DO THE OUTCOMES OF THE EARTH SUMMIT STAND TODAY?

Addressing expectations for the recent Rio event and its own legacy entails looking back at its predecessor. If the Earth Summit is considered a success, can those successes be repeated in the aftermath of Rio +20? Understanding what we have gained

*Roger Martella is a partner in the Environmental Practice Group at Sidley Austin LLP. He recently rejoined the firm after serving as the General Counsel of the United States Environmental Protection Agency, concluding 10 years of litigating and handling complex environmental and natural resource matters at the Department of Justice and EPA.

Kim Smaczniak is an Attorney at the United States Department of Justice, Environmental and Natural Resources Division where she works to enforce and defend claims that arise under federal environmental law on behalf of the United States. She also serves as the Vice-Chair of the American Bar Association Section of International Law’s International Environmental Law Committee.

from the first Rio Earth Summit, how far we have come and still have to go, sets the stage for Rio+20.

At the outset, there can probably be little debate that the UN Framework Convention on Climate Change (UNFCCC) stands as one of the defining outcomes of the Earth Summit, with an objective to stabilize greenhouse gases at a level that would prevent dangerous interference with the climate system. Despite widespread ratification of the UNFCCC and recognition of the credibility of the recommendations, political negotiations since 1992 have failed to obtain meaningful global commitments to greenhouse gas reductions. While an increasing amount of nations, states, provinces, and municipalities cite the need for compelling and prompt action,⁸ greenhouse gas emissions are higher today than ever before and are rising globally.⁹ The Kyoto Protocol, which set forth the first phase of binding commitments toward emission reductions in industrialized nations who are parties to the agreement, expired in 2012. The most recent climate change talks at Durban in 2011 resulted in an agreement to adopt another binding agreement by no later than 2015 — essentially kicking the can of tough political decisionmaking down the road.

Another well known legacy of the Earth Summit, the UN Convention on Biological Diversity (CBD), has similarly obtained widespread ratification, at the same time that worldwide markers of progress toward the conservation and sustainable use of biodiversity have lagged dismally. The Millenium Ecosystem Assessment, a four year study conducted across 90 countries, concluded that 60% of the services provided by ecosystems have been degraded or are being used unsustainably and that, for a range of taxa, the majority of species are currently in decline.¹⁰ In the same vein, the UN 2010 Global Biodiversity Outlook boded ominously that “[c]urrent trends are bringing us closer to a number of potential tipping points that would catastrophically reduce the capacity of ecosystems to provide [] essential services.”¹¹ CBD is another outcome of the Earth Summit where the stage was effectively set but whose objectives remain largely unrealized.

Whereas the measures of progress toward certain goals set in the Earth Summit are disappointing or even alarming, Agenda 21 and the Rio Declaration are sound victories with more than symbolic importance. Since the Earth Summit, international attention to sustainable development and sound environmental governance has persisted. In turn, the language of sustainable development has gained greater currency in the two decades since the Earth Summit. Meyerstein’s article, “The New Protectors of Rio: Global Finance and the Sustainable Development Agenda,” speaks of a phenomenon that one could not conceive of without the successes of the Earth Summit and international commitment to the principles of sustainable development — the evolution of the “Equator Principles.” Among other strong indicators, the willingness of inherently pragmatic large project financiers to take into account the borrower’s ability to comply with relevant social and environmental policies is a mark of a larger cultural shift toward the integration of the concepts of sustainable development into society.¹²

But beyond the mere awareness that Agenda 21 and the Rio Declaration spurred for sustainable development worldwide, this progeny also stimulated direct funding for projects in support of sustainable development. International organizations in particular have used such instruments to guide and prioritize their funding portfolios. To showcase a single example, in 1997 the World Bank published a paper tracking its grants and loans in furtherance of Rio’s objectives during the five-year period following the Earth Summit.¹³ The study documented the steady increase in projects targeting the improvement of environmental management, the rise in the funding available for such projects by \$8 billion, or 8% of its lending over that time period, and ways the Bank was working to mainstream sustainable development into other development programs.

Further substantiating the sustained international attention to the goals articulated at the Earth Summit, the number of multilateral environmental agreements has exploded over the years, now totaling some 500 (or more) different legally binding documents.¹⁴ Yet, despite this encouraging trend that has enabled environmental agreements where the traditional treaty process would have stood still, the spike of international commitments, however, has not been matched by either national implementing laws or capacity for enforcement. A well-recognized “implementation gap” exists between goals recognized at the international level and the practical ability to attain those goals on the ground.¹⁵ Even with dedicated funds and attention to overcoming the implementation gap, there can be long delays between the enactment of national legislation, its implementation, and the ultimate impact on environmental and development outcomes in the country.

This fundamental shortcoming has been well-documented in the context of Environmental Impact Assessment (EIA) legislation. The Rio Declaration incorporated as Principle 17 a requirement to undertake an EIA for national activities that are likely to have a significant adverse impact on the environment. Throughout the 1990s, there was a proliferation of national legislation implementing Principle 17. By 1998, more than 100 countries had incorporated some form of EIA legislation.¹⁶ A number of international organizations, including the Organization for Economic Cooperation and Development (OECD), the World Bank, and UNEP, implemented measures to promote the establishment of EIA laws and provide guidance or training on EIA implementation.¹⁷ A 2003 study diving deeper into implementation, however, found that most EIA systems in developing countries failed to meet a series of performance criteria.¹⁸ More recent country-specific studies have found that, despite the sometimes decades since the enactment of the EIA law, the effectiveness of EIAs remains uneven and lacking in key areas, including, for example, public participation, technical expertise, and regular enforcement.¹⁹ The gradual nature of countries’ progress in the implementation of EIA laws is the same story that could be told across a wide range of international environmental commitments.

The upshot is not that the Earth Summit failed to have impact, but that the force of that impact, and subsequent efforts,

has not been sufficient to reach a change in behavior at a sufficiently global scale. The pertinent question for Rio+20 thus becomes how to recognize and account for the achievement gap to streamline implementation in the future, in addition to what role this particular conference can play in reinforcing commitment or amplifying the effectiveness of ongoing efforts to advance sustainable development.

THE WORLD AT RIO + 20

Even as negotiators look back to the lessons of the Earth Summit, they must also assess the realities of the world in 2012. The world stage is set differently now than in 1992. Most prominently, recent financial and economic crises loom large in the minds of political leaders and their constituents. For many nations that classically take leadership in international environmental negotiations, the political climate pulls in the direction of scaling back international support, rather than increasing financial or other commitments of resources toward sustainable development. New players have emerged as well, further changing the nature of international negotiations. Developing economies are burgeoning with great success stories of declining poverty levels. But they also are contributing at growing rates to the world's environmental issues, in a manner that was likely unforeseeable even as recently as 1992. China, Brazil, and India have each attained prominence of their own, pressing forward with agendas and environmental interests that are distinct from that of other developing countries. Kelley's article, "China in Africa: Curing the Resource Curse with Infrastructure and Modernization," highlights two features of the changing role of these countries through its focus on China's investment activities in Africa: the increasing importance of their economic activities as drivers of environmental outcomes, and their evolving political interests as a result of an increasing interconnectedness with the global economy.

Developments in the technical and scientific world also have been rapid and dramatic. For those with access to the internet, information flows freely. For the many who remain without such access, the expansion of mobile phone networks has similarly opened the gates of communication. Samantar discusses the extensive access to mobile phones and the surprising number of applications for this technology — ranging from gathering information for rural farmers about crops to offering training for nurses — in three sub-saharan countries in his article, "Shining Sun and Blissful Wind: Access to ICT Solutions in Rural Sub-Saharan Africa Through Access to Renewable Sources." Changes in access to information are as big of a game-changer as developments in the political and economic climate, and we have only begun to witness the effects of this transformation. Our increasing capacity to communicate information goes hand-in-hand with a steadily growing ability to monitor the state of the world, including environmental impacts. Technology, such as satellites, and research, including extensive collaborative studies like the Intergovernmental Panel on Climate Change, have continued to advance our understanding of human activity across the globe and its impacts.²⁰

Another reality of the 2012 world is that an extensive array of institutional machinery to address sustainable development has already been built, unlike 1992 when such organizations were still newly emergent. With the proliferation of MEAs, as well as other regional or bilateral agreements such as trade agreements containing environmental aspects, there has been a commensurate rise in the number of institutions engaged in environmental governance. MEAs are each typically supported by a different Secretariat, and trade agreements now frequently incorporate environmental cooperative mechanisms. At the same time, international organizations and national development agencies have increasingly become important actors in international environmental governance.²¹

While the global environmental infrastructure is thus more thoroughly developed than in 1992, there are perhaps unsurprisingly a host of common criticisms of global environmental governance, including concerns that (i) the system is too fragmented (for example, each MEA Secretariat focuses too narrowly on its objectives rather than synergies among sustainable development objectives); (ii) there is a lack of coordination among the different actors (it is common enough for one organization not to be aware of similar activities of others in the geographic same area); (iii) there is insufficient focus on implementation of commitments rather than negotiation of new ones; (iv) its resources are used inefficiently (with large overhead costs for each institutional entity and a tendency for certain activities to be overfunded while others are systematically neglected); (v) there is insufficient inclusion of or authoritative guidance provided to non-environmental organizations, such as trade, development, and investment organizations; and (vi) it fails to adequately engage with non-state actors, including NGOs and business.²² Thus, while negotiators in 2012 are not starting with a clean slate in developing an infrastructure to implement their goals, what they do inherit includes a confusing and often uncoordinated mix of actors that must be accounted for.

THE OPPORTUNITIES FOR RIO +20?

As the world emerges from the June Rio + 20 summit, the fundamental question will be whether Rio +20 becomes the watershed event that its predecessor, the Earth Summit, was before. Most commentators preceding the event have been pessimistic on the point.²³ Yet, perhaps a better question, in light of the decades of evolution in environmental governance norms and institutions that must be considered, is whether an Earth Summit of the magnitude of Rio + 20 is the only avenue toward advancing sustainable development goals. The Earth Summit generated a series of universal aspirational, long-term principles and goals that remain significant to the environmental and developmental challenges of 2012. While there is certainly value in bringing world leaders together to reaffirm and focus attention on those goals again, the heaviest lifting to improve sustainable development outcomes needs to happen at the ground level of implementation. Such decisions and commitment of resources are much more likely to be made in national, bilateral, or regional contexts. Rio +20 should be evaluated, then, for how

well it brings increased attention, resources, or coordination toward the implementation of sound environmental governance measures first established in the Earth Summit but which have evolved since then.

With such a lens, there are a number of hopeful signs for productive outcomes from Rio +20 in the near and longer term. It should come as no surprise that much of the event involved negotiations over text of debatable value. As one veteran of UN development negotiations put it, “the shelf life of a typical UN declaration or report rarely lasts beyond a few days.”²⁴ However, the time spent wrangling over the definition of a “green economy” (does it supersede the concept of sustainable development, is it a means to the end of sustainable development, it is flexible enough to accommodate for the growth needs of developing countries, and so on) should be weighed against the knowledge sharing and new initiatives related to the green economy that are emerging from Rio +20. At a basic level, the Rio +20 website already includes a section highlighting successful green economy initiatives, ranging from the global to the local, and many country submissions and preparatory sessions have showcased other such successes.²⁵ Such exchange is likely to continue to amplify post-Rio.

Indeed, one of the outcomes identified in the Zero Document is the establishment of a more comprehensive information sharing platform, to provide countries with a toolbox of best practices, methodologies, and policies for a green economy. As they did following the Earth Summit, other international organizations, NGOs, and national development organizations will likely continue to coalesce around objectives identified at Rio +20 and initiate their own programs. The World Bank already has indicated it views the green economy theme of Rio +20 as a platform to promote adoption of “natural capital accounting,” alternative measures of the economy beside GDP that take into account the value of ecosystem services.²⁶ Rio + 20 is likely to inspire other such spin-off efforts.

The possibility remains that a series of “Sustainable Development Goals,” mirrored off the success of the Millennium Development Goals (“MDGs”), may yet emerge from negotiations. The MDGs set forth a series of eight goals and defined metrics and timeframes by which to achieve certain targets in furtherance of each goal. (E.g., Target 1a: Reduce by half the proportion of people living on less than a dollar a day) As such, the MDGs represent an unprecedented consensus about measures to reduce poverty.²⁷ While there is dispute as to whether the benefits of hard, measurable targets are sufficient to overcome

their limitations, there is at least anecdotal evidence that the identification and widespread adoption of a few, targeted metrics have improved the concentration and coordination of development funds.²⁸ This, in turn, appears to have led to documented improvements in those metrics for at least some of the MDGs. Whether negotiators are up to the challenging task of distilling the broad concept of sustainable development into a small number of concrete and time delimited goals is uncertain.²⁹

Rio + 20 is also promising in its continued engagement of stakeholders beyond member nations. The conference has an established web presence, including a Facebook page, Twitter account, and YouTube footage, and has successfully sparked engagement of youth at cities across the globe. Organizers have provided space for civil society to contribute to discussions at numerous side-events at Rio. The inclusion of business as partners in advancing sustainable development is also a prominent feature of the conference. A number of preparatory sessions and side-events focus on the perspective of industry, and there is a particular day set aside for discussion between policymakers and business leaders. The broader the base of participants, the greater the possibility that such stakeholders will generate greater attention, and accordingly resources, to implementation at the local and national levels.

Less heartening is the lack of progress to date toward any particular option for the reform of the institutional framework for sustainable development. While it remains feasible that some simple “fix” is adopted, such as expanding UNEP’s mandate or funding or some combination of both, it seems unlikely that more ambitious and comprehensive reforms necessary to address the weaknesses in global environmental governance will emerge in the wake of Rio + 20.³⁰ This is an area where leaders should remain resolute even after the conference to open the path forward to greater reform and avoid a lost opportunity, particularly as changes in such institutions are unlikely to occur outside a multilateral forum. So long as environmental governance remains fragmented and insufficiently coordinated, the efforts of the diverse actors in this space are likely to remain diffuse.

Whatever the ultimate legacy of Rio +20, however, the first Rio has already taught us that advancing sustainable development is an extended, multi-pronged effort. No single international conference can provide sufficient momentum alone to reach the large scale changes in human behavior that are necessary to improve global developmental and environmental outcomes. Rio +20 will be judged, finally, not by its immediate splash, but as a part of that greater sustained effort to bring about change. 

Endnotes: Introduction to Rio + 20: A Reflection on Progress Since the First Earth Summit and the Opportunities that Lie Ahead

1 U.N. Conference on Environment and Development (1992), UN.ORG, <http://www.un.org/geninfo/bp/enviro.html>.

2 ‘Earth Summit’ Held in Brazil; Climate, Species Pacts Signed: Targets Lacking on Aid, Controls; Other Developments, FACTS ON FILE WORLD NEWS DIGEST, 18 June 1992, <http://www.2facts.com/article/1992050592>.

3 Jenny Purtt, *Reflecting on Rio: looking back to 1992*, THE GUARDIAN (Mar. 6, 2012, 8:02 AM) <http://www.guardian.co.uk/sustainable-business/video-rio-1992-reflections-sustainable-development>.

Endnotes: INTRODUCTION TO RIO + 20: A REFLECTION ON PROGRESS SINCE THE FIRST EARTH SUMMIT AND THE OPPORTUNITIES THAT LIE AHEAD

continued from page 7

- 4 See Agenda 21, U.N. Conference on Environment and Development, U.N. Doc. A/CONF.151/26, Preamble §§ 1.1, 1.3 (1992)(emphasis added).
- 5 See e.g., Kirby, Alex, *Will Rio+20 bring anything new to the table?*, THE GUARDIAN (Sept. 30, 2011, 11:32 AM) <http://www.guardian.co.uk/sustainable-business/what-will-happen-at-rio-2012-business-sustainability>; Clark, Pilita, *Rio + 20 talks in 'need of vision and direction'*, THE FINANCIAL TIMES (Apr. 23, 2012, 11:29 PM) <http://www.ft.com/intl/cms/s/0/253d9f90-87c6-11e1-ade2-00144feab49a.html#axzz1ugiyMqtf>.
- 6 Brazil and the European Parliament have both expressed support for the principle of non-regression. See BRAZIL SUBMISSION TO THE RIO+20 PREPARATORY PROCESS (Nov. 1, 2011) <http://www.uncsd2012.org/content/documents/BRAZIL%20Submission%20%20English%201.11.11doc.pdf>; European Parliament resolution on developing a common EU position ahead of the United Nations Conference on Sustainable Development (Rio+20) EUR. PARL. DOC. P7_TA(2011)0430 (2011), <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2011-430>.
- 7 , Robert Glicksman, *The Justifications for Nondegradation Programs in U.S. Environmental Law*, THE NON REGRESSION PRINCIPLE IN ENVIRONMENTAL LAW (M. Prieur & G. Sozzo, eds.) (forthcoming).
- 8 See e.g., IPCC releases full report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, International Panel on Climate Change (Mar. 28, 2012), http://www.ipcc.ch/news_and_events/docs/srex/srex_press_release.pdf (concluding that human activities have likely led to increased frequency of certain extreme climate events over past 50 years).
- 9 Prospect of limiting the global increase in temperature to 2° C is getting bleaker, INTERNATIONAL ENERGY AGENCY (May 30, 2011), http://www.iea.org/index_info.asp?id=1959 (IEA estimates energy-related carbon dioxide emissions in 2010 were the highest in history, while an estimated 80% of projected emissions from the power sector in 2020 are already locked in).
- 10 WALTER V. REID, ET AL., MILLENNIUM ECOSYSTEM ASSESSMENT: ECOSYSTEMS AND HUMAN WELL-BEING SYNTHESIS 1 (2005) <http://www.maweb.org/documents/document.356.aspx.pdf>.
- 11 Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 3* 5 (2010) <http://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf>.
- 12 Though, as Perry Wallace's article "International Investment Law and Arbitration, sustainable development and Rio +20: Improving Corporate Institutional and State Governance," points out later in this issue, there are still many sectors of the investment community who remain disconnected from the discourse on sustainable development and need to be brought into the discussion.
- 13 World Bank, *Advancing Sustainable Development: the World Bank and Agenda 21*, Environmentally Sustainable Development Studies and Monographs Series No. 19 (1997) .
- 14 Norichika Kanie. *Governance With Multilateral Environmental Agreements: A Healthy or Ill-Equipped Fragmentation*, GLOBAL ENVIRONMENTAL GOVERNANCE, CENTER FOR UN REFORM EDUCATION 68 (Walter Hoffmann and Lydia Swart eds.) (May 2007) (citing to multiple studies putting the number at around 500); c.f., Gregory L. Rose, *Gaps in the Implementation of Environmental Law at the National, Regional, and Global Level* (Oct. 12-13, 2011) www.unep.org/delc/Portals/24151/FormatedGapsEL.pdf; *Discussion paper for First Preparatory Meeting of the World Congress on Justice, Governance and Law for Environmental Sustainability* at 6 (Oct. 12-13, 2011) (estimating a total of 700 environmental agreements, including bilateral and regional agreements).
- 15 Rose *supra*, note 14.
- 16 CHRISTOPHER WOOD, ENVIRONMENTAL IMPACT ASSESSMENT IN DEVELOPING COUNTRIES: AN OVERVIEW 4 (Nov. 24-25, 2003), www.sed.man.ac.uk/research/iarc/ediaps/pdf/Wood.pdf.
- 17 *Id.* A number of the training materials are now available online. See e.g., <http://www.unep.ch/etb/publications/enviImpAsse.php>.
- 18 *Id.* at 20 (evaluating the EIA requirement on criteria including their legal basis, coverage, consideration of alternatives, screening of actions, scoping of impacts, and reporting requirements).
- 19 Abdul-Sattar Nizami, et al., *Comparative analysis using EIA for developed and developing countries: case studies of hydroelectric power plans in Pakistan, Norway, and Sweden*, 18 Int'l J. Sustainable Dev. & World Ecology 134-142 (2011) <http://www.tandfonline.com/doi/pdf/10.1080/13504509.2011.559399>; Hummod A. Naser, *Evaluation of the Environmental Impact Assessment in Bahrain*, 3 J. of Envtl. Protection 233-239 (2012), www.scirp.org/journal/PaperDownload.aspx?paperID=17471; Onyenekenwa Cyprian Eneh, *Managing Nigeria's Environment: The Unresolved Issues*, 4 J. Envtl. Science & Technology 250 (2011), <http://scialert.net/qredirect.php?doi=jest.2011.250.263&linkid=pdf>.
- 20 For example, the NASA Landsat program has been collecting information from the Earth's surface for nearly 40 years now, generating a historical archive unmatched in quality, detail, coverage, and length. The information generated from this observation has been used to study a wide variety of subject matter, from changes in global urbanization, impacts on coastlines following disasters like hurricane Katrina, and for studies of water consumption from agriculture. *Landsat then and now*, NASA.GOV (Jan. 11, 2012), <http://landsat.gsfc.nasa.gov/about/>.
- 21 ADAL NAJIM ET AL., GLOBAL ENVIRONMENTAL GOVERNANCE: A REFORM AGENDA, 10-11(2006), <http://www.iisd.org/pdf/2006/geg.pdf> (listing two pages of members of the UN Environmental Management Group as an example of the breadth of different actors engaging in environmental governance activities).
- 22 *Id.* at 14-17. See also, Kanie, *supra* note 14.
- 23 See Marco Sibaja, *Critics: Biggest UN Summit heading toward failure*, FOXNEWS.COM (May 11, 2012), <http://www.foxnews.com/world/2012/05/11/critics-biggest-un-summit-heading-toward-failure/>.
- 24 D. HULME & S. FUKUDA-PARR, INTERNATIONAL NORM DYNAMICS AND 'THE END OF POVERTY': UNDERSTANDING THE MILLENNIUM DEVELOPMENT GOALS (MDGs) 14-15 (2009), http://www.eadi.org/fileadmin/MDG_2015_Publications/fukuda-parr_and_hulme_2009_international_norm_dynamics.pdf. See also, Jacob Scherr, *Reflections on the Race to Rio: Crowdsourcing Sustainability at Earth Summit 2012*, NRDC BLOG (May 14, 2012), http://switchboard.nrdc.org/blogs/jscherr/reflections_on_the_race_to_rio.html ("It's easy to feel depressed about the state of the Rio+20 preparations [after two weeks of negotiations]... The governments managed to reach agreement on less than two dozen paragraphs and have agreed to return for another week of talks at the end of May to tackle the remaining 400.").
- 25 *Green economy policies, practices and initiatives*, UNCS2012.ORG, <http://www.uncsd2012.org/rio20/geatabase.html>.
- 26 *Natural Capital Accounting*, WORLDBANK.ORG, <http://go.worldbank.org/R0F611S5F0>.
- 27 JEFF WAAGE, ET AL., THE MILLENNIUM DEVELOPMENT GOALS: A CROSS-SECTORAL ANALYSIS AND PRINCIPLES FOR GOAL SETTING AFTER 2015 (2010), <http://download.thelancet.com/flatcontentassets/pdfs/S0140673610611968.pdf>.
- 28 *Id.*; see also, SUMNER, ANDREW AND THOMAS LAWO, THE MDGs AND BEYOND: PRO-POOR POLICY IN A CHANGING WORLD (2010), http://www.eadi.org/fileadmin/Documents/Publications/policy_wp/EADI_Policy_Paper_March_2010.pdf.
- 29 Consider also Avilés' discussion in this issue's article "Sustainable Development and the Legal Protection of the Environment in Europe" regarding the difficulty of applying the "vague" principles of sustainable development in the resolution of legal disputes. To the extent that sustainable development is comprised of sometimes competing meta-principles, they may be too complex to break down into meaningful rules of application or metrics.
- 30 Maria Ivanova , *Institutional design and UNEP Reform: historical insights on form, function, and financing*, 88 Int'l. Affairs 565, 570 (2012), <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-2346.2012.01089.x/pdf>.