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Editorial

Environmental Laws and Sustainability: An Introduction

John C. Dernbach [1,*] and Joel A. Mintz [2]

[1] Widener University Law School, 3800 Vartan Way, Harrisburg, PA 17106, USA

[2] Nova Southeastern University, Shepard Broad Law Center, 3305 College Avenue, Fort Lauderdale, FL 33314, USA; E-Mail: mintzj@nsu.law.nova.edu

* Author to whom correspondence should be addressed; E-Mail: jcdernbach@widener.edu; Tel.: +1-717-541-1933; Fax: +1-717-541-3966.

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Abstract: In this introduction to the special issue of *Sustainability* on environmental laws and sustainability, we attempt to synthesize key lessons from the issue's ten substantive articles. These lessons involve the use of law to achieve integrated decision-making, the use of pre-existing laws to foster sustainability, the centrality of sub-national governments in achieving sustainability, the background law of unsustainable development, the growing importance of climate change, the need to use law to protect and restore ecological integrity, the importance of judicial review and nongovernmental organizations, the need to translate sustainability into specific legal principles, the challenge of creating an appropriate national legal structure for sustainability, the importance of sustainability assessment tools and institutions before and after laws are adopted, and the importance of "soft" law.

Keywords: environmental law; sustainability; sustainable development; integrated decision-making; law for sustainability; governance; law; legal institution

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1. Introduction

Sustainable development provides a framework for humans to live and prosper in harmony with nature rather than living, as we have done for centuries, at nature's expense. Nonetheless, sustainability does not now have an adequate or supportive legal foundation, in spite of the many environmental and natural resources laws that exist. If we are to make significant progress toward a sustainable society, much less achieve sustainability, we will need to develop and implement laws and legal institutions that do not now exist, or that exist in a much different form. Since their clients in government, business,

and nongovernmental organizations increasingly demand legal work that addresses sustainable development issues, lawyers have now begun to respond to that demand.

To achieve sustainability, we also need to recognize that, while environmental law is a key to achieving sustainability, it is only part of the necessary legal framework. Other needed legal involve a wide range of other laws, including land use and property laws, tax laws, laws involving our governmental structure, and the like.

This special issue of *Sustainability* is not just about the relationship between law and sustainability. The contributors to this issue also attempt to answer, in various ways, the question of how law can and should be used to achieve sustainability. The phrase, "law *for* sustainability," captures this idea. In a fundamental way, "law for sustainability" is also about governance for sustainability, because law provides essential tools and institutions for governing sustainably. The urgency of the task before us requires this kind of engaged scholarship: providing information, tools, and ideas that policy makers, practicing lawyers, and others can use to address the challenges and opportunities of sustainability.

The contributors to this special issue bring a wide variety of professional, academic, and geographic perspectives to bear on this question. They are widely recognized for their knowledge and expertise.

In this introduction to the special issue, we attempt to synthesize some of the key lessons from the ten substantive articles. Rather than simply summarize each article, we identify and describe their cross-cutting lessons respecting what "law for sustainability" requires. Reading this introduction is thus not a substitute for reading the thoughtful and provocative articles included in this special issue.

2. Lessons about What "Law for Sustainability" Involves

The following is a suggested list of what "law for sustainability" involves. Because the data base for this exercise is comprised of the ten articles in this special issue, it is not likely to capture all of the needed elements. Still, it is suggestive of both the importance and scope of the many contributions that law can make toward progress in achieving sustainability. (Like many of the contributing authors to this special issue, we use sustainability and sustainable development interchangeably.)

2.1. Use of Law to Require Integrated Decision-Making

The central action principle of sustainable development is integrated decision-making—the incorporation of environmental, social, and economic considerations and goals into decisions. Nicholas Ashford and Ralph Hall argue that national governments in particular need to integrate "environmental, health, and safety regulation with industrial, trade, and employment policies" ([1], p. 282). Doing so will achieve not just incremental improvements but rather disruptive or breakthrough innovations that will, for example, improve the efficiency with which materials and energy are used by a factor of five or ten, and "foster significant opportunities for stable, rewarding, and meaningful employment with adequate purchasing power" ([1], p. 285). The integration of multiple national objectives necessarily opens up more space to solve problems. Integration fosters technological innovation because a greater range of mutually reinforcing objectives can present a larger number of options for achieving these objectives. Governments can achieve this kind of policy integration, Ashford and Hall argue, through a variety of legal and policy tools, including the use of regulation to foster innovation; research and development; "removing regulatory barriers to innovation;" tax policies; and encouragement of

management-labor bargaining "before technological changes are planned and implemented" ([1], p. 287).

Integration across levels of government is also important. In many cases, the legal rules for a particular sustainability objective at a higher level of government are completely separate from the relevant legal rules at a lower level of government. As a result, the lower level of government can make decisions that frustrate or impede sustainability goals. Rachel Medina and A. Dan Tarlock explain how the state of California addressed just such a problem [2]. The state's 2006 climate change legislation of reducing California's greenhouse gas emissions to 1990 levels by 2020, but it did not address local land use laws that were contributing to sprawl and greater greenhouse gas emissions. In 2008, after litigation that challenged these local laws, the legislature passed a law encouraging plans that provide for less automobile use.

2.2. Use of Pre-Existing Laws to Foster Sustainability

Most observers recognize that sustainability requires new laws and modifications to existing laws. It is less often recognized that sustainability can be achieved by simply applying existing laws to new problems, or by making incremental changes in those laws.

Many but not all of these laws are traditional environmental laws. Nongovernmental organizations and the California Attorney General, for example, forced municipalities in that state to consider the greenhouse gas emission impacts of their land use decisions by filing and settling lawsuits under the 1970 California Environmental Quality Act (CEQA) [2]. This statute requires state and local governments to prepare environmental impact reports for decisions that will have a significant impact, and to reduce or avoid impacts whenever feasible. This litigation, as already noted, led to the adoption of a 2008 statute describing local responsibilities to limit greenhouse gas emissions with greater particularity than CEQA. But that legislation would not likely have been adopted without the CEQA litigation.

Similarly, Robin Craig and J.B. Ruhl survey a range of legal and policy tools that can be used to foster sustainable management of coastal ecosystems—integrated, place-based management strategies and innovative regulations, including market-based instruments. Their starting point is existing law, and they show how these existing laws could be modified to achieve more sustainable outcomes, including adaptation to climate change. For example, they advocate wider use of collaborative governance structures, greater use of "reflexive law" (such as information reporting), and more use of economic incentives. While they recognize that governments have begun to use these tools, they argue that they could be "used more pervasively and creatively as part of new sustainable governance institutions" ([3], p. 1380).

Many of the laws that provide starting points for sustainability are not environmental laws. A 1994 Cuban law made it easier for residents of urban areas to grow and sell food on unused land. Since then, the government has provided financial, technical, and marketing assistance for this kind of agriculture. The overall program has increased access to food, led to more organic and sustainable food production, and created jobs—all key elements of a food security program—even though much food is sold on the black market or through foreign currency. Cuba has one of the world's most aggressive and sustainable

urban agriculture systems, and it is developing in stages that began with the 1994 law ([4], pp. 1703-1705).

Property law, particularly the law involving common-interest communities (known as homeowner associations in a residential context) can also be used to foster sustainability. Anthony Schutz proposes that property law be applied in the context of the ranchland in the U.S. Great Plains to take advantage of consumer demand for horseback riding, camping, wildlife observation, hiking, and hunting. In this region, only 2% of the land is managed for biodiversity conservation while three fourths of the land is in private ownership ([5], p. 2321). Schutz's article identifies many of the ways that groups of private landowners could use the law of common-interest communities to organize themselves to provide these services collectively. While the organization of such communities would require landowners to make a great many decisions—including what they want to produce as a group, and how they would allocate the benefits—these communities would provide economic opportunities that would benefit the environment as well.

Nor do these existing laws need to be from the same jurisdiction; comparative law has a significant role to play in the quest for sustainability. Kenneth Abbott and Gary Marchant review five possible mechanisms for institutionalizing sustainability across the entire federal government in the United States. Each of these mechanisms is based on an existing law from the U.S. or another jurisdiction. For each, they identify ways in which an existing law could be modified, strengthened, or extended to foster sustainability at the national level. As they note, the incremental adaptation of existing laws means that the innovations they represent are achievable ([6], p. 1938). Similarly, in analyzing an appropriate legal structure for sustainability in the United Kingdom, Andrea Ross draws on examples from Wales, Scotland, and the Canadian provinces of Manitoba and Quebec [7].

Existing laws might also be effectively supplemented with other approaches, including community-based social marketing techniques. As Amanda Kennedy explains, "[c]ommunity-based social marketing aims to produce behavioral change via direct communication and community level initiatives, concentrating upon removing barriers to change" ([8], p. 1139). These marketing techniques include public commitments, incentives, public communication strategies, prompts to encourage actions that people might not otherwise do, and social norms. A considerable body of social science research demonstrates that community-based social marketing can cause individual behavior to be more sustainable. She provides examples where social marketing appeals made to individuals have resulted in more effective environmental regulation—including air pollution reduction in Portland, Oregon, and water use restrictions in Kamloops, British Columbia. Environmental regulation and community-based social marketing together, Kennedy concludes, are both more effective and more cost effective than either one by itself.

2.3. The Centrality of Sub-National Governments in Achieving Sustainability

Across the world, sub-national units of government—such as provinces, states and local governmental units—have substantial, if not primary, legal responsibility for issues central to sustainable development. These include, but are not limited to, education, provision of drinking water and sewage disposal, and land use control. This is the case not only in nations with a federal form of government, but also in countries like the United Kingdom, where there has been substantial

devolution of decision-making authority (including authority for sustainable development strategies) to sub-national governments (e.g., Scotland, Wales, Northern Ireland) ([7], pp. 1106-1107). In view of this, much of the progress necessary to achieve sustainability, as well as the most important obstacles to its achievement, are located at the sub-national level. However, when responsibility is shared to some degree between national and sub-national levels, a lack of national action on important issues (e.g., climate change) may prompt sub-national governments to address that issue on their own [2].

Apart from legal responsibility, the more granular scale of decision making at more local levels corresponds to the more granular scale of the problem. Better local land use and sustainability planning and decision-making can make communities significantly more livable because that is the level at which many of the relevant challenges occur, and also the level at which decisions are made ([2], pp. 1756-1757). For example, Maja Goepel points out that Tuscany's genetic heritage law allows the listing and limited exchange of local breeds and varieties of crop plants, thus identifying them and providing an incentive to protect them ([4], pp. 1702-1703). Such a law would likely be much harder to implement at the national level in Italy.

At the same time there are limits to the efficacy of decision-making at sub-national levels of government. Thus, Robert Adler suggests that greater frequency and severity of droughts because of climate change may force national governments to assume more responsibility for issues like water sustainability. Where that occurs, sub-national governmental units (such as U.S. states), where most water law decisions are made, are likely to end up with fewer responsibilities [9].

2.4. The Background Law of Unsustainable Development

An enormous but not fully characterized problem is the extent to which the law now works *against* sustainability. Environmental laws are easy to identify because they are usually labeled as such. By contrast, there are few if any explicitly anti-environmental or anti-sustainability laws. Instead, such laws deserve to be included in the law of unsustainable development because of their effects. The articles in this special issue provide ample evidence of the existence of such laws. Land use laws are part of the problem, as Medina and Tarlock explain. "United States land-use law encourages cities not to constrain residential and commercial land-use choices but to expand the range of these choices by favoring low density, suburban urbanization characterized by economic, racial and social segregation" ([2], p. 1745). Similarly, Robert Adler argues, "existing legal regimes address drought in a largely reactive way, fail to promote sustainable systems and practices that might help to mitigate or prevent drought impacts, and in some ways actually decrease sustainability and hence increase society's vulnerability to drought" ([9], p. 2177). Ashford and Hall argue, more strongly, that the unsustainable beneficiaries of the present system are supported and encouraged by a variety of laws, and that they use these laws and existing legal institutions to resist change ([1], p. 289).

2.4. The Growing Importance of Climate Change

The importance of climate change to sustainability has grown rapidly in recent years. The articles in this special issue reflect this fact. They focus on the impact of local decisions on climate change, and the need to reduce greenhouse gas emissions that would otherwise result from those decisions ([2], pp. 1743-1747). Of equal importance, but much less understood, is a need to modify

pre-existing laws to adapt to climate change. Adler believes that laws relating to drought—a recurring issue in human history—will likely need to be reexamined in light of the more frequent and severe droughts that are projected to occur because of human-induced climate change. "An increased focus on sustainability could improve the ability of affected communities to anticipate, cope with, and even prevent drought impacts, he says ([9], p. 2180). For Adler, this increased focus on sustainability would include a new legal approach to drought based on several factors, including a social decision "about how the risk of water shortages should be distributed," legal promotion of the sustainability of water supplies and allocation of water to places where it is most needed, integration of drought planning into water resources law and policy (rather than treating drought as a separate issue), and economic and other incentives for sustainable water use. However, changes to water law by themselves are not enough. A truly sustainable approach to water policy will also need to "re-evaluate and amend laws and policies that drive important underlying economic decisions by the agriculture industry and others" ([9], p. 2192).

2.5. The Need to Use Law to Protect and Restore Ecological Integrity

While sustainable development is commonly understood as involving the relationship between the social, environmental, and economic domains of human existence, Klaus Bosselmann insists on the primacy of protecting and restoring ecological sustainability [10]. There needs to be an ecological bottom line, he argues, because "the ecological basis for human survival is at risk" ([10], p. 2442). Environmental law has not prevented the continuation of widespread environmental degradation around the world; the "global commons—climate, biodiversity, the oceans—are in rapid decline and the human ecological footprint both in absolute terms and *per capita* is getting larger" ([10], p. 2433). Bosselmann suggests amending New Zealand's well-known Resource Management Act so that its purpose would be "to achieve ecological sustainability in New Zealand." While changes such as this would not automatically "set us on a sustainable path," he argues, they could at least "provide the direction for such a path" ([10], p. 2442).

The protection and restoration of ecosystems is also a subtext of a number of the other articles. For example, Schutz's proposal to use the law of common-interest communities on lands that are now devoted primarily to livestock grazing is specifically intended to increase biodiversity conservation on those lands [5].

2.6. The Importance of Judicial Review and Nongovernmental Organizations

Sustainable development requires public participation and effective access to the courts. Without an engaged public and an independent judiciary, laws on the books may not be implemented or enforced. The articles in this special issue provide evidence of the importance of nongovernmental organizations. The California litigation that ultimately forced local governments to consider their climate change impacts was originally brought by a nongovernmental organization, the Center for Biological Diversity ([2], p. 1749). Although the case was settled rather than decided by a court ([2], pp. 1754-1755), the availability of an effective court system provided impetus for the settlement.

Goepel uses her article to advance the work of the World Future Council, the nongovernmental organization for which she works. Her article, which itself builds on the work of the International Law Association, another nongovernmental organization, illustrates the importance of such organizations in developing, refining, and advocating legal and policy tools for sustainability [4].

2.7. The Need to Translate Sustainability into Specific Legal Principles.

While the vagueness of sustainable development is widely lamented, the international agreements on which sustainability is based as well as a growing body of scholarship and experience have set out basic legal principles for sustainability. Craig and Ruhl identify eight such principles: the polluter-pays principle, the use of best available science, the precautionary principle, intergenerational sustainability, transnational sustainability, accounting for ecosystem services, integrated decision-making, and adaptive management. They explain how those principles can be applied to the sustainable management of coastal ecosystems ([3], pp. 1367-1375).

Somewhat similarly, Bosselmann insists on the necessity of ecological sustainability as a bedrock sustainability principle for law. He would define ecological sustainability as "preservation or restoration of the integrity of any ecosystem in the biosphere," and would define ecological integrity as "the ability of an ecosystem to recover from disturbance and re-establish its stability, diversity and resilience" ([10], p. 2441).

There also have been formal efforts to state principles of national governance that could be applied to sustainability. Goepel describes a project by the International Law Association to set out seven specific principles (sustainable use of natural resources; equity and the eradication of poverty; precautionary approach; public participation and access to justice; good governance; common but differentiated responsibilities among developed and developing nations; and integration of human rights and social, economic, and environmental objectives) ([4], pp. 1696-1698). Goepel observes that these principles can also be applied to national governance. Ross explains that the United Kingdom's Sustainable Development Commission has used three broad criteria that are essential to make sustainable development happen at the national level. These are public understanding of the big picture; a comprehensive framework for integrating conflicting priorities; and a toolkit of policies, practices, and laws for implementing sustainability ([7], pp. 1104-1105).

2.8. The Challenge of Creating an Appropriate National Legal Structure for Sustainability

The sustainable development commitments that nations made at the United Nations Conference on the Environment and Development in Rio de Janeiro in 1992, and that they reaffirmed in 1997 and 2002, are, of course, *national* commitments. The cross-cutting nature of sustainability means that it is not confined to a single subject or a single administrative agency, department, or ministry. Rather, national commitments require the engagement of the federal or national government as a whole. Two of the articles in this special issue focus on law for sustainability at the national level—one in the United Kingdom (which has long had a national strategy), and the other in the United States (which has never had one).

The United Kingdom has had a national sustainable development strategy since 1994, the content of which has evolved over time. Nonetheless, that strategy lacks a strong legal foundation. The United

Kingdom's strategy is progressive in tone and substance, according to Ross. However it has not been particularly effective at delivering the three criteria (mentioned above) that the Sustainable Development Commission says must be met. The biggest problem, as Ross sees it, is that "there seems to be very little understanding or coherent thought about what exactly sustainable development means and its role in governance" ([7], p. 1109). Three models for legislation are available—a procedural model (requiring, for example, the development of a strategy but not necessarily requiring adherence to the strategy), a law that explicitly establishes a sustainable development strategy as the point of reference for all decision-making (or, at a minimum, environmental decision-making), and a law that makes sustainable development the organizing principle for national governance. Although she prefers the third model, Ross advocates that the adoption of legislation be staged over time, beginning with the procedural model, because the implementation of sustainable development in the United Kingdom since 1994 has also evolved in stages. Whichever legal approach is used, she concludes, will cause sustainability to be taken more seriously, create legally enforceable obligations (if only to observe required procedures), and attract greater public attention to sustainability ([7], p. 1121).

Abbott and Marchant argue that at least five mechanisms are available in the United States to institutionalize a national approach to sustainability ([6], pp. 1926-1936). These are: (1) an executive order requiring federal agencies to work broadly toward sustainability, (2) a sustainability impact assessment process that would include analysis of the effect of agency policies and programs, (3) a nonpartisan Congressional Joint Committee on Sustainability to assist Congress in examining the effect of laws and recommending reforms, (4) a federal Sustainability Commission modeled on the United Kingdom Sustainable Development Commission that would advise the government and advocate and monitor sustainability activities, and (5) an independent Sustainability Law Reform Commission that would be "tasked with reviewing existing federal law from the perspective of sustainability and recommending amendments, enactments and repeals" ([6], p. 1932). These mechanisms, they say, illustrate a reasonable range of possible approaches that could be used in the United States to foster sustainability.

2.9. The Importance of Sustainability Assessment Tools and Institutions Before and After Laws Are Adopted

It is not enough, of course, to simply throw laws at a problem. Laws must be designed and drafted with care to achieve particular results, and they must be evaluated carefully afterwards to see if they have actually achieved the desired results. For sustainability laws, the availability of credible and widely applicable assessment tools and institutions is especially important.

These tools can include existing social science research methodologies. For example, Kennedy notes many social science studies evaluating the effectiveness of environmental regulations that are combined with community-based social marketing [8]. Nevertheless, new tools are also required. Using food security laws as an example, Goepel describes how the International Law Association's seven principles can be used to assess the sustainability of particular legal measures [4]. The assessment methodology that Goepel favors translates these seven principles into interview questions to be posed to government officials, members of nongovernmental organizations, and academic and other experts. The methodology that she recommends is empirical, not theoretical, and qualitative,

rather than quantitative. After using this method to evaluate food security laws in Tuscany, Italy; urban Cuba; and Belo Horizonte, Brazil, Goepel concludes that "the seven principles, even though originally defined for international law, have the potential to serve as an ideal norm that is universal and yet flexible enough to guide the drafting and amendment of laws and policies on any governance level" ([4], p. 1696).

Assessment tools are not enough, however. Without some institutional mechanism to assess laws from a sustainability perspective before and after they are adopted, sustainability assessment is likely to be sporadic and ineffectual. The purpose of many of the mechanisms identified by Abbott and Marchant is to assess laws from a sustainability perspective on an ongoing basis—both before and after these laws are adopted. At the same time however, those authors recognize that, standing alone, institutions for assessment would be insufficient without more precisely defined principles that can form the basis for assessment [6].

2.10. The Importance of "Soft" Law

At the international level, scholars often distinguish between hard law (e.g., treaties that are in force) and soft law (e.g., declarations at international conferences). In practice, though, there is a sliding scale of "hardness" and "softness" at both the national and international levels; some hard laws contain soft requirements (e.g., to "consider" or "assess") while some soft law instruments contain hard law norms (e.g., legal principles). Abbott and Marchant analyze five mechanisms based on their relative hardness or softness, and conclude that "institutions with widely varying forms and levels of legal authority can make valuable contributions to sustainability law and policy; consideration should not be limited to institutions with—'hard' legal mandates" ([6], p. 1937). In fact, as Kennedy suggests, some mechanisms may not even qualify as soft law. Social norms, public communications, and other aspects of community-based social marketing nonetheless can also shift individual behavior in a more sustainable direction [8].

4. Conclusion

The underlying challenges that sustainability addresses—widespread poverty and growing global environmental degradation—are urgent challenges. Law can make a variety of key contributions in achieving sustainability. We need to find ways to accelerate the use—and analysis—of laws that can foster sustainability. The authors of the articles in this special issue have made a significant contribution to this objective, and we editors are grateful for their efforts.

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