Comparative Environmental Law and Regulation

Nicholas A. Robinson, Lye Lin Heng and Elizabeth Burleson
Editors

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Preface

Environmental Law has emerged as a growing part of nearly every practice of law. The reason is evident: the environment is all around us and we all depend upon it. While ancient societies had their rules against fouling wells and their nostrums for controlling disease, modern society with its complex technologies has produced troubling pollution, contamination of the food chain, extinction of entire species in large numbers, erosion of the Earth's stratospheric ozone layer that shields all live from the solar ultraviolet rays, and a host of other environmental problems. In response, Environmental Law is being developed to resolve the present generation of environmental issues and guide future socio-economic development to avoid creating a possible next generation of such threats to human wellbeing.

This treatise serves the needs of those who would advance the field of Environmental Law through understanding, employing, and refining it further. Many individuals are responsible for this work. I am grateful to David R. Cohen, President of Oceana Publications, and Susan DeMaio of Oceana, for their vision and support in publishing this work. My skilled colleagues at Sidley & Austin, Thomas M. McMahon, and J. Andrew Schlickman, with the assistance of Claire St. Jean, Nicoline van Riel, and others, had the foresight to initiate publication of this work, and I am much in their debt. Each of the authors of the chapters of this work have been pioneers in defining and applying the Environmental Law in their jurisdictions, and their willingness to share their expertise for the benefit of their fellow legal experts around the world is a tremendous service. Dean Richard L. Ottinger and my colleagues in the Center for Environmental Legal Studies at Pace University School of Law in White Plains, New York, and Françoise Burhenne-Guilmin and her colleagues at the Environmental Law Centre of the International Union for the Conservation of Nature and Natural Resources (IUCN) in Bonn, Germany, have been ever helpful and supportive, and I thank them. Finally, I acknowledge with thanks the essential help of my secretary, Mary Stagliano, in shepherding this book along; her help has been invaluable.

A book like this is never complete. Users are cautioned to go beyond this text to make their own investigations in to the current state of affairs of any of the Environmental Laws examined in this study. I invite those with corrections and emendations and suggestions for this work to write to me through Oceana Publications. In supplements, this work will be expanded to include additional jurisdictions and to revise the coverage of the jurisdictions included.

Nicholas A. Robinson
Wellfleet, Massachusetts

Introduction

Nicholas A. Robinson

Since its emergence as a distinct field of law about the time of the 1972 United Nations Stockholm Conference on the Human Environment, Environmental Law has become a significant corpus of law in practically every country. Few government programs or private practices of law can ignore the various functions or rules that Environmental Law provides. Yet, despite the acknowledged relevance of this still young field of law, it is often rather difficult for legal specialists in one country to identify, obtain and evaluate the legal significance of the Environmental Law of another State. It is the aim of this treatise to remedy this deficiency.

Environmental Law can rarely be examined from an isolated, sectoral perspective. For instance, the prospective purchase of an industrial site must be examined from numerous environmental legal points, related to past manufacturing practices on the site, waste disposal, pollution control technologies, presence of surface waters or aquifers, adjacent residential or other land uses that may be affected by factory operations, energy supply services, transportation infrastructure, and other possible environmental issues. No one law covers all these aspects.

The chapters in this treatise offer initial research frameworks facilitating further investigation of a nation's Environmental Law. Each chapter has addressed comparable aspects, so that the framework throughout the work has common elements. When the elements of this framework are addressed for each country, it becomes clear that some States have given greater emphasis to one dimension of Environmental Law rather than another. Environmental Law has uneven application around the work, partially because of the differentiated conditions in each region and partially because Environmental Law is new and growing rapidly. Until a stable cadre of Environmental Law specialists exists around the world, and until consensus emerges on the acceptable state-of-the-art technology for handling certain types of pollution control, when one seeks to explore the Environmental Law of another State, in large measure what one may find will be unpredictable at least in the all crucial detail.

The over-all context in which Environmental Law functions internationally has been provided by the policies favoring "sustainable development." In some States, such as the Netherlands, many of the nation's law have been restructured to serve a central policy focus based on analysis of what is sustainable in that country. In Australia,

for instance, the strength of the Environmental Law context can be measured by the fact that this policy matrix is almost universally known as "environmentally sustainable development." In other States, the relevance of a debate over "sustainable development" remains tangential to the current legal system. Nonetheless, since the trends internationally is engaged by a discussion of "sustainable development," it is useful at the outset to examine how Environmental Law provides an important foundation for the attainment of "sustainable development."

As the world's largest summit meeting ended in 1992 in Rio de Janeiro, the heads of state and their representatives assembled in the United Nations Conference on Environment and Development embraced an **Agenda 21** as "a dynamic programme" which can "evolve over time in the light of changing needs and circumstances," and be a process "the beginning of a new global partnership for sustainable development."[1] **Agenda 21** is premised on two factual perspectives. The first is the documentation of trends in the deterioration of the environmental conditions in many parts of the world; the U.N. World Commission on Environment and Development articulated these challenges and called for nations to build the systems needed for a "sustainable" development that successfully could counter these trends.[2] The second is the recognition that the political, social and economic development programs established after the Second World War were largely failing; not only were socio-economic conditions in a significant number of "developing" nations in fact declining, but expenditures of natural resources and labor were making it likely that the present generation would prejudice the options of future generations for the improvement of their condition. "Sustainable Development" would be the paradigm which would reverse these factual perspectives.

But how? Both The World Commission on Environment & Development and the UN Conference on Environment & Development (UNCED) presented many recommendations by which the new paradigm could be established. Neither discussed the measures by which the success or failure of these recommendations could be assessed or compared. Both examined the role of law and agreed that law was critical to any endeavor to establish the processes for sustainable development. Comparative legal analysis provides a relatively objective basis for evaluating how the sustainable development recommendations function.

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[1] Paragraph 1.6, Agenda 21, at N.A. Robinson (Editor), *Agenda 21: Earth's Action Plan* (Oceana Publications, Dobbs Ferry, N.Y., 1993) at pp. 2-3.

[2] World Commission on Environment and Development, *Our Common Future* (Oxford University Press, 1987).

Environmental Law & Sustainable Development

The World Commission observed that "Human laws must be reformulated to keep human activities in harmony with the unchanging and universal laws of nature."[3] UNCED recommended that governments provide an effective legal and regulatory framework to integrate environmental protection with socio-economic sectors; **Agenda 21** states that "although the volume of legal texts in this field [sic] is steadily increasing, much of the law-making seems to be ad hoc and piecemeal, or has not been endowed with the necessary institutional machinery and authority for enforcement and timely adjustment.[4]

There is, of course, no "field" of law yet denoted as "Sustainable Development Law," although commentators have been re-examining existing fields of law in endeavors reconfigure them into themes that resonate of the sustainable development debates.[5] The field of law that is most central to these themes is Environmental Law. The conservation aspects of Environmental Law long examined issues of resource depletion, sustainable yield, and the health of natural systems. The public health aspects of Environmental Law are essential to restoring or maintaining livable cities. The energy efficiency and waste minimization elements of Environmental Law are basic to furthering a robust economy. The most insightful commentators are those who address the question of how the law can further the objectives of sustainable development.[6]

Although one could identify a variety of national laws appropriate to advance the objectives of sustainable development,[7] and also formulate progressive developments for international law to harmonize such national legal regimes,[8] for such normative innovations to gain support, it is essential that empirical studies be undertaken to demonstrate which laws actually do successfully attain the desired sustainable effects. Once legal techniques are proven in the field, the conditions necessary to replicate the legal success can be understood, and a state could adopt and implement such laws for sustainable development with some confidence that they would achieve their

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[3] Id., at p. 330.

[4] **Agenda 21,** Para. 8.13, supra note 1.

[5] C. Campbell-Mohn, B. Breen, J.W. Futrell, J.M. McElfish, Jr., and P. Grant, *Sustainable Development Law* (West Publishing Co., 1993).

[6] J. Owen Saunders, Ed., *The Legal Challenge of Sustainable Development* (Canadian Institute of Resources Law, Calgary, 1990); B. Boer, R. Fowler, N. Cunningham (Eds), *Environmental Outlook—Law & Policy* (The Federation Press, Annandale,NSW, Australia, No. 1, 1965 and No. 2, 1996).

[7] See, e.g. N.A. Robinson, "A Legal Perspective on Sustainable Development," in Saunders, op. cit. Supra note 6, p. 15 at 30-31.

[8] See Draft International Covenant on Environment and Development (IUCN Commission on Environmental Law, Environmental Policy & Law Paper 31, 1995).

purposes. Of course, there is nothing new in proposing such deliberative legal analysis, but since much of the legal debate over "sustainable development" today seems to be uniformed by reference to scholarly analysis, it is necessary to push to point. It is not enough to "think anew"; it is ever necessary to ground new thinking in an historical perspective.[9]

The comparative law analysis of Environmental Law can contribute much to an understanding of how law can further sustainable development. Environmental Law has emerged as a field whose objectives are to maintain the health of humans and the natural systems of the biosphere, and is rapidly being elaborated both through multilateral environmental agreements world-wide and by through new national statutory regimes in practically every nation, there is a substantial body of recent legal experience suited to comparative legal study of how different nations are addressing the comparable environmental or developmental issues.

Comparative Environmental Law also yields benefits for the legal practitioner. With the globalization of international trade, communications, and finance, there is a growing commercial practice in environmental law. Characteristic of this legal practice are the following:

a. Evaluating environmental standards for the pre-investment surveys;
b. Environmental due diligence for acquisition or sale of real property, especially manufacturing enterprises;
c. Environmental impact assessment for construction or modification of infrastructure and facilities;
d. Environmental audits for compliance, waste minimization of enhancements of environmental efficiency and risk/liability management;
e. Evaluation of import/export environmental trade of goods.

In each of these transactions, the attorney must access and interpret the salient environmental laws of the jurisdictions where his client is or will be doing business. The volume of this legal practice will grow as international trade increases and environmental laws assume ever greater effectiveness in developing countries, and jurisdictions whose economies are in transition from being centrally planned to becoming market based.[10]

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[9] R.E. Neustadt and E.R. May, *Thinking In Time: The Uses of History for Decision Makers* (The Free Press, NY, 1986).

[10] In 1970, around the "birth" of Environmental Law in the United States, I predicted and described a similar phenomenon in the commercial practices involving the very new federal and state laws for environmental protection; in many respects, this transnational practice in environmental law is the mirror of that earlier growth in practice. See N.A. Robinson, "New Dimensions of Corporate Counseling in

While these introductory observations state the reasons why Comparative Environmental Law should be studied if we are to understand the legal aspects of sustainable development, it remains to introduce the elements of that study. What must the scholar or government lawyer or private practitioner alike do to engage in comparative environmental legal studies? This essay is not a restatement of environmental law from a comparative perspective. Nor it is a compilation of comparative studies, such as *Comparative Environmental Law*. Rather this study introduces the elements that should be considered in any serious examination comparing the environmental laws of different states.

In turn, the following points are introduced: (a) Which jurisdictions can be compared; (b) what are the elements of a comprehensive environmental law regime to identify and compare; (c) how can environmental laws be harmonized and integrated among states in order better to give effect to their objectives; (d) how can one locate and verify environmental laws. Finally, based on these sorts of comparative law analyses, one can then identify what may be required for comparing elements of sustainable development itself.

Comparing Jurisdictions

While Environmental Law takes on the form of the legal culture in which it is adopted and functions, it is defined by a common body of subjects and norms. The substantive ends of Environmental Law are for guiding human conduct to consider consciously, and act to maintain, the natural systems of the biosphere that sustain human society. Given these ends the field of Environmental Law must take instruction from the environmental sciences, and an understanding of how different legal jurisdictions are affected by and influence shared atmospheric, hydrologic or biological systems is fundamental. Therefore, unlike many subjects of Comparative Law in which jurists compare the functioning of similar statutes or institutes across two or more nations. The comparison of environmental regimes must begin with an identification of the relevant biomes, watersheds, food chains, habitats, species of flora and fauna, or other objects of natural science that are the subject of the legal regime under study.

Comparative Environmental Law begins, therefore, with *both* the identification of the legal jurisdictions that must be compared and with the natural resources which the law addresses. If the jurisdictions compared each have the same migratory species resident in their lands, airs and waters, the comparison of land use systems to maintain habitat can be made. Similarly, when studying aquifer protection and maintenance, the comparative analysis begins with the

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Environmental Law, 1 COLUM. J. ENVIR'L L. 7 (1974).

location of those jurisdictions where the aquifers are situated. Alpine montane legal systems will necessarily be distinct from the management of coastal zones in their environmental problems, forms of land tenure, economic development pressures; it is no sunrise that, as a result, different types of environmental legal means can and should be structured for such places.

Having identified the geographic setting, ecology, and other characteristics of the jurisdiction to be examined, the nature of the jurisdiction must be then noted. Analysis of a federal nation, such as Argentina, Australia, Brazil, Canada, Germany, India, Malaysia, The Russian Federation or the United States of America, entails a threshold examination of whether the federal or the constituent state or provincial authorities have the competence to manage a given environmental issue under the governing constitution of the federation. Although about thirty nations have amended their constitutions to provide contemporary environmental protection duties, most countries' constitutions were framed before either the formal emergence of the field of ecology in the early 20th century, or the political awareness of environmental concerns in the period following the 1972 United Nations Stockholm Conference on the Human Environment. It often requires a painstaking and detailed study of a federation's constitutional law to determine which level of government has the legal capacity to protect the environment. Where competence is shared by both levels, or where the state is autonomous of most federal functions (e.g. the Canary Islands in Spain or the Buryat Autonomous Republic in Russia), or where indigenous peoples and local communities have customary rights as well (as do the Inuit around the Arctic Circle or Aborigines in Australia), it becomes very difficult to frame law governing the management of a natural area or environmental system; scientists can describe the natural system with some precision and yet the legal capacity to make decisions based on that scientific understanding is can be lacking.

The role of local authorities must also be considered. **Agenda 21** devoted an entire chapter[11] to the importance of the governments of urban areas, counties and shires, and districts and small regions. Even in unified nations with central governments, by law and custom very significant powers are delegate to or devolve upon local governments. The land use controls, local parkland designations, supply of potable water, handling of refuse and locally generated wastes, management of sewage, provision of housing and open space, and a host of comparable environmental issues are the responsibility of the local authorities. Comparative Law, therefore, finds it necessary also to examine each nation's laws that assign competence over environmental issues to its political subdivisions.

[11] See Chapter 28, "Local Authorities' Initiatives In Support of Agenda 21," in **Agenda 21,** supra note 2.

One category of jurisdiction requires special comment. These are what political scientists term the "failed state." Although the governments in a number of nations have collapsed, the needs of the people and the transboundary impacts of environmental problems continue. Whether the cause be civil strife, as in Cambodia, Sudan, Rwanda or Yugoslavia, or simply to gradual erosion of support for governmental services in a some parts of Africa and Central Asia, it must be acknowledged that most government activities are inadequate for undertaking the tasks of Environmental Law. The Special Resumed 50th General Assembly of the United Nations made a number of recommendations for the world community on assisting these "failed states." While economic development may be attractive in many of these areas where natural resources are found, such places lack the environmental protection infrastructure required for effective Environmental Law regimes. Such investment is likely to be problematic and in the long run be unsustainable.[12]

Once analysis has focused on the type of environmental conditions in a jurisdiction and the constituent components of that jurisdiction competent to deal with those conditions, then more traditional Comparative Law questions arise. Is the governmental structure in the Civil Law, Common Law or Socialist Law tradition? These varied traditions define basic forms and the rights and functions of the legislative, executive and judicial branches of government, as well as

[12] Lincoln Bailey, in a paper on "Organizational and Managerial Challenges" to a UN Interregional Seminar on the Role of Public Administration in Developing Infrastructure and Protecting the Environment (Rio de Janeiro, 6-8 March 1996), in preparation for the 50th General Assembly, made the following observation: "Sub-Saharan Africa is in deep crisis. Over the last decade and half its GDP growth has averaged only 2 percent pr year, whilst its population growth has averaged 3.2 percent . . . Its living standards are in free fall, in Nigeria and Somalia for example, the decline has been over 25 percent since the early 1980's. Its agriculture is weak, sector output has been less than 1.5 percent on average per annum resulting in larger sections of the continent increasingly unable to feed itself. Its industrial output is in sharp decline, its exports, largely primary products, is stagnant, leaving Africa's share of world trade at almost half of what it was in 1970. The region is saddled by grinding debt accumulated over the last 20 years, which it is now unable to repay. According to the World Bank, the continent's long term debt has experienced an almost 20 fold increase since the mid-70's. Its social indicators are in reverse mode, sinking to new levels of despair, its public sector organizations and institutions are dysfunctional and the region suffers growing ecological damaged. . . .

"In most Sub-Sahara Africa countries established concepts of checks and balances and separation of powers do not exists (with exceptions such as, Ghana, Botswana and Mauritius), or are treated as empty formalisms. The courts are not separate from the government, hey usually fall under a ministry of justice. The judicial systems themselves are relics of the colonial past, formal laws are often not well understood and are therefore not effective means of social control. In many Sub-Sahara African countries the law makers and enforcers consider themselves above the law. . . the patrimonial al-powerful state in Sub-Sahara African countries thus concentrates, monopolizes and personalizes power in the administration. The privatization of the state, the concentration of power and the lack of accountability are a major fetter on the efficient and effective functioning of the public service in Africa."

of the citizens. There is, of course, a large body of Comparative Law that has examined the legal elements, both substantive and procedural, or these legal traditions, and recourse is needed to this scholarship. However, in Environmental Law it is evident that the field of Environmental Law itself evidences common trends across its existence in Civil Law or Common Law traditions, and theoretically also across the Socialist Law tradition (although the institution of Environmental Law norms in that tradition remains more rhetorical than actual).

Environmental Law tends to contain the same sort of substance and procedure across legal traditions because the field in influenced by four phenomena that are common to all jurisdictions in the biosphere:

First, as noted above, the ecology and the other environmental sciences are disciplines applied throughout the Earth; as scientists reach consensus in understanding environmental conditions and phenomena, that is a shared, common body of knowledge. Since natural systems, whether wetlands or boreal forests, the hydrologic cycle or the stratospheric ozone layer, function in much the same ways wherever they are studied, a common perception emerges about the substantive objectives that a society should adopt in order to maintain the environmental benefits of a natural system. Governments tend to want to understand how each other manage roughly the same sort of natural resources, in order to efficiently do so and be considered to be using the best management practices.

Second, many of the externalities that endanger public health or degrade natural systems, such as urban smog or acid rain, are the result of the same technological systems. Technological solutions for eliminating lead from motor vehicle gasoline, or phasing out chloroflurocarbons in refrigeration systems and for us as circuitry solvents, will be the same whether the nation is developed or developing, in a Civil or Common Law tradition, or with a central or federal constitution. As engineers shape and adopt new methods for industrial activities, they are in course sought and implemented as economic advances; multinational business enterprises move this transfer of technology forward, and regional or national companies in turn adopt the technologies. Governments tend to adopt the same regulations for these new technologies, in order to facilitate and derive the environmental and economic benefits from their implementation.

Third, the complexity of the modern state has given rise to an administrative system that shares much in common. Telecommunication agencies, central bankers, aviation offices, trade ministries, agricultural bureaus, oil and gas managers and a host of other sectoral activities tend to have more in common with each other in every jurisdiction than do the jurisdictions themselves. The administrative state in the realm of environmental protection is similar. Environment

Ministers meet at the ministerial level in all regions and globally through the United Nations system. The same sort of procedures for permits, financial incentives, norms and standards, monitoring and base-line date analysis, environmental impact assessment, and compliance and enforcement, are used by these administrators in each jurisdiction. Administration of environmental protection has tended to use similar means, not surprisingly since similar scientific guidance and similar technological problems or innovations provide the foundation for these means.

Fourth, the globalization of Earth, such as the rapid transmission of news, the Internet, travel between continents in a few hours, increased volumes of trade between regions, has also facilitated collaboration world-wide by environmental protection movements. The citizenry comes to learn that a pollutant can be (or has been) banned, in one jurisdiction and demands the same elsewhere. Non-governmental organizations (NGOs) are flourishing at the grass-roots level in all countries. The activist elements in the civil society make sure that the government is informed about environmental issues and advocate a reform agenda. Just as similar economic activity produces similar incidents of pollution, so similar political and social responses emerge to demand that government deal with the externalities. When citizens ask for public hearings, planning procedures, environmental education, publication of environmental data, or enforcement of environmental laws, they are pressing forward very comparable priorities.

When engaging in research to compare the Environment Laws of different nations, one can reasonably expect to be able to identify statutes and legal institutions which bear substantial similarity, depending on the type of natural resource or pollution problem being examined. Having considered these aspects of the jurisdictions to be examined, it is useful to outline the basic framework or structure of Environmental Law that should exist in any given jurisdiction. Each jurisdiction is inevitably in the midst of completing or changing many of the elements of this framework, so it is not a static or complete body of law. Nonetheless, reference to such a framework can facilitate legal analysis by identifying the broad subjects in Environmental Law for comparison in each jurisdiction.

Comparative Elements of an Environmental Law System

Environmental Law typically addresses the ambient environmental conditions for the health of a population, and the ecological status of the natural resources present in the jurisdiction concerned. The elements identified here are presented because they recur in most national environmental law regimes, and cover the subjects studied by the environmental sciences. Not only are these useful categories for starting a comparative environmental law analysis, but they can

also be used to measure the probable success of a jurisdiction in reaching or maintaining "sustainable development." A useful global consensus of the norms that are implicit in such a framework is set forth in the United Nations World Charter for Nature.[13] The UN World Charter for Nature, like the recommendations of **Agenda 21,** provide both a blueprint for future actions of governments and an indicator of the progress (or lack thereof) in a jurisdiction's progress toward attaching "sustainable development."

Among the useful comparative elements in examining a nation's Environmental Law is analysis of which multilateral environmental agreements the State has signed or ratified. These treaties provide a common set of obligations which governments must reflect in national environmental legislation and programs. International Agreements such as the Convention on the Conservation of Biological Diversity, and such earlier treaties like the UNESCO Convention on the Protection of Cultural & Natural Heritage, the Ramsar Convention on Wetlands of International Importance, or the 1973 Washington Convention on International Trade in Endangered Species, tend to be implemented through comparable laws. The Framework Convention on Climate Change, and Part XI of the UN Convention on the Law of the Sea, also provide a useful inventory of national obligations which can be compared among different nations.[14]

Comparative Environmental Law may usefully look for legislation covering the following subjects:

I. Subjects of Substantive Environmental Law

A. Natural Resources

1. Renewable in cultivation: agriculture, silvaculture, aquaculture; soil
2. Renewables *in situ*: conservation of bio-diversity; endangered species protection; habitat for migratory species and wildlife refuges; wetlands
3. Renewables: surface water resources; aquifers; soils
4. Renewables in "preservation" modes: parks, natural monuments, natural heritage generally
5. Non-renewables in managed extraction: oil, natural gas, coal, "hard rock" mining

B. Pollution Abatement and Control

1. Air pollution
2. Water pollution
3. Hazardous chemical manufacture, use and transport

[13] F.U.N. General Assembly Resolution 37/ 7. Adopted October 28, 1982. See generally W. E. Burhenne and W.I. Irwin, *World Charter for Nature* (Erich Schmidt Verlag, 1986).

[14] These multilateral environmental agreements ("MEAs") are included in many different environmental and standard treaty series; see, e.g. N.A. Robinson, *Environmental Law Treaties of the United States* (Oceana Publications, Dobbs Ferry, 1996).

4. Solid waste management: minimization or avoidance, recycling, reuse and storage
5. Noise abatement

C. Process safety and quality controls

1. Work place safety
2. Product quality—total quality assurance systems

D. Energy generation, transmission and efficient use

1. Renewables (wood, biomass, hydropower, wind, solar)
2. Fossil fuels
3. Atomic Energy

E. Cultural Heritage—Historic landmarks, districts and archaeological sites

F. Service Sectors and Infrastructure

1. Transportation
2. Land Use allocation: town and country planning; open space; housing

G. Transboundary Environmental Issues

1. Shares resources (e.g., coasts, river basins, migratory species)
2. Transborder impacts (e.g., pollution; phyto-sanitary issues of endemic species; transfrontier hazardous waste movements)

H. Shared Commons—Oceans, Antarctic regions, climate, stratospheric ozone layer

II. Subjects of procedural Environmental Law

A. Basic obligations—Constitutional provisions; human rights aspects; establishment of the precautionary principle; polluter pays principle; intergenerational equity; public participation procedures

B. Scientific surveys and date assembly—baseline date, monitoring, research

C. Reporting, publication and dissemination of environmental information

D. Establishing environmental standards, both ambient for natural resources or public health, and operational or performance norms (process requirements, emission or effluent limits, etc.)

E. Administration of standards and techniques appropriate for each subject sector (e.g. permits, licenses, audits, user fees, other economic incentives)

F. Environmental Impact Assessment (EIA)

G. Compliance and enforcement systems (administrative, civil, criminal)

H. Restoration of damaged ecosystems and resources and compensatory remedies for damages

III. Organization of government for administering procedures in each subject area of law

A. Structure of jurisdiction and allocation of competencies to agencies, local authorities, financing means, etc.
B. Regional and International cooperation in related governance systems (e.g. European Union, North American Free Trade Agreement, Association of South East Asian Nations, MERCOSUR, CIS, etc.)

Comparative legal analysis of some or all of the elements of this Environmental Law framework can provide instructive insights. Although nations confront similar situations in terms of the natural environmental conditions, impacts on public health, standardized technological processes and means, and environmental problems resulting from the externalities of the economic market (e.g. accumulated incremental run-off pollution in a water course) or human errors (e.g. the Chernobyl or Bhopal accidents), every culture responds to these similar situations in ways that are shaped by their own traditions and cultures. The study of one or more element of Environmental Law in several different States often finds that one State is particularly adept at one subject while largely ignoring others. From the successful implementation, one can discern the criteria for effectiveness, and thus be better able to advise other jurisdictions about how to also attain success. From the less successful experiences, the inhibitions and obstacles to implementing Environmental Law can be identified. Both analyses contribute to determining how best to try to harmonize and integrate comparable environmental norms regionally or internationally; either analysis is useful to the lawyer whose clients have similar operations in two or more States.

Harmonizing Environmental Norms Internationally

Comparative Environmental Law study can identify instances in which nations may be addressing the same problems in different way. Where one nation in a region abates acid rain while another does not, the environmental damage continues and the first "wins" some incremental, short-term economic exploitative gain at the other's expense. There is an evident need to promote comparable norms and equivalently effective administration of those norms among all States sharing the same environmental resources.

When a national falls short of meeting its obligations to protect the environment, it can be either because it has the means to do so but lacks the will, or lacks the means. Many developing countries, and economies in transition from planned to market economies, have sought assistance from industrialized States in providing these means. The Global Environmental Facility (GEF) established by the UN Development Programme, the UN Environment Programme and the World Bank, endeavors to build this capacity. In federal systems, the federation often provides means to ensure that each constituent jurisdiction can meet a shared duty; in Canada this took the form of an

inter-provincial agreement to coordinate air pollution laws and in the USA it took the form of a massive financial assistance program to design and construct municipal sewage treatment works.[15]

The varying geographic situations and levels of economic wealth of nations has given rise to an international standard that accommodates such differences. The international agreements on Climate Modification and On Bio-Diversity both provide mandates for "common but differentiated responsibilities." In essence, these treaties contemplate that each State must do its particular and fair share in any internationally agreed upon measures to protect the environment. For instance, although both the European Union or USA and India or China have common duties to attempt to contain emissions of "greenhouse" gases that could alter the climate, just how they do so and to what extent will depend on their different industrial and economic conditions. The details of such a common but differentiated duty remain to be negotiated in each context, but in other case unless all States concerned have a thorough understanding of each other State's Environmental Law, there will be very little basis realistically to define the responsibilities, or know if they are indeed functioning toward a common end. Here, again, it is essential to have a solid understanding of comparative Environmental Law.

There is significant evidence that various jurisdictions are, in fact, creating very comparable environmental legal systems. The rapid transference of environmental impact assessment from its creation in the National Environmental Policy Act in the USA in 1969, to its unilateral adoption in over 130 jurisdictions world-wide at present, is a very apt example.[16] In the context of the European Union, even in such distinct areas as the Flemish, Walloon and Brussels areas of Belgium, these is evidence that Environmental Law takes on the same sort of content. Prof. Dr. Kurt Deketelaere reports that "It is clear that environmental legislation in Belgium in general and in the Flemish Region in particular, is becoming less 'sectoral' and more 'general': there is less and less place for different sectoral permits, plans, procedures, et cetera. A great effort has been made to harmonize, as much as possible, topics which are arising in every sectoral environmental legislation. . . .The 'greening of law' in general, on the basis of the integration principle, must be the ambition for the future. The introduction of ecological elements in the classical branches of law is already now, in a modest way, a reality."[17]

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[15] Title II of the Federal Water Pollution Control Act Amendments of 1972.

[16] This EIA process is described in N.A. Robinson, "EIA Abroad: The Comparative and Transnational Experience," in S.G. Hildebrand and J.B. Cannon, *Environmental Analysis: The NEPA Experience* (Lewis Publishers, 1993, for the 9th Oak Ridge National Laboratory Life Sciences Symposium).

[17] K. Deketelaere, "Public Environmental Law in Belgium In General and In The

Harmonization of Environmental Law is the active concern of a number of international entities. In the European Union, it is an objective of the EU. In common trade areas such as ASEAN or MERCOSUR, it is an active element of cooperation. Organizations such as the Commission on Environmental Law of the International Union for the Conservation of Nature and Natural Resources (IUCN) actively undertake measures leading to harmonization.

In an insightful study by the Association of the Bar of the City of New York on the relationship of Environmental Law and international trade,[18] it was stressed that while reasonably uniform environmental (and other) standards are important to establish a level playing field for commercial competition across nations, nonetheless there is a real need to allow each jurisdiction to establish such more advanced or refined standards as necessary to meet local conditions and values. What is needed is a floor, not a rush to the bottom, if environmental protection objectives are to be advanced world-wide.

Another element of harmonization are the voluntary codes of conduct, such as the International Chamber of Commerce's "Business Charter for Sustainable Development," issued in 1991. The International Standard Organization's ISO 14000 Environmental Quality Standard will promote a common methodology by which business can ensure compliance with environmental standards in different countries. In order to complete the ISO 14000 audit process, it will be necessary to access and understand the Environmental Law of each country where a manufacturing facility is situated.

Finally, Comparative Environmental Law can be important in the context of international dispute resolution. Whether the forum is the European Court of Justice or a trade dispute panel of the World Trade Organization, or an international arbitral panel, increasingly there is the need to identify and set forth objectively the Environmental Law of the States involved in a dispute.

Locating & Authenticating Environmental Law

Because Environmental Law is a complex subject, with legal ties to many varied bodies of law, and is rapidly evolving, it is often a challenge to find current texts for environmental statutes, regulations, administrative rulings, judicial decisions, and implementing procedures. Eventually, there will be able introductory surveys for all nations, such as *Comparative Environmental Law*. Such references provide needed orientation and identify the laws and where to find

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Flemish Region In Particular," in *Comparative European Environmental Law*.

[18] "Harmonizing and Coordinating the Economic Law of Nations: A Comparative Study," by the Committee on the United States in a Global Economy, 49 *The Record of the Association of the Bar of the City of New York* 800 (1994).

them.

The Internet is also providing a tremendously important access tool. Universities and governments are posting and maintaining Environmental Law reference services on the Internet in many countries. For instance, the Center for Environmental Legal Studies of Pace University has designed The Virtual Environmental Law Library as a research reference linking international environmental agreements and national environmental legal regimes,[19] or the University of Singapore has established the Asia-Pacific Centre for Environmental Law to post the environmental legislation of the ASEAN nations on the Internet,[20] or the University of Rhodes maintains the South African Environmental Laws.[21].

The only fully reliable means to obtain the Environmental Laws of a given jurisdiction is to identify the official source of the statute or rule or decision, and then obtain a duly verified copy of that text. Where locally admitted counsel have obtained such official texts, they can provide copies. In many instances, legal publishers will publish official texts or reliable texts provided by University libraries or legal experts. Before relying on any of the legal texts on the Internet, it will be necessary to ascertain whether the entity responsible for the Internet service did inspect an official copy of the law before posting it on the Internet. One must also inquire when the last time the law was inspected for amendments and when the Internet copy last was brought up to date.

Comparative Law has long been concerned with how to find and research the laws of different jurisdictions. Issues of translation and meaning, authentication of texts, and interpretation in accordance with the canons of the jurisdiction involved. Here, again, the traditional Comparative Law scholarship is most useful to those undertaking comparative analysis of Environmental Laws.

One non-traditional source for Environmental Law in a given subject may be the environmental scientists concerned with that subject. Frequently they have been consulted in the design or implementation of the given statute or regulation, and know which government offices are responsible for the law and have current copies of the laws. Equally important, they tend to know about pending or possible proposals for amendments to the laws.

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[19] The Universal Resource Locator (URL) for this reference is http://www.law.pace.edu.

[20] APCEL can be reached at lawapcel@leons.nus.sg.

[21] URL for this reference is: http://www.ru.ac.za/departments/law/S/Aenviro/saep.html

Conclusions

Environmental Law, evaluated across nations through the techniques of Comparative Law, is at once a foundation for sustainable development in terms of **Agenda 21** and serves as an indicator of the success or failure of a nation's measures to attain or maintain sustainable development. The systematic analysis of Environmental Law in this way is still in its infancy, and much more attention has been devoted to international environmental law. This is partially because it is difficult to know how to compare Environmental Law and where to find it in different jurisdictions. By clarifying the processes of comparative environmental legal study, the objectives of sustainable development can be materially advanced.

About the Contributors

Austria

Willibald Plesser graduated from the University of Vienna with a Masters Degree from the Faculty of Arts and Sciences in English and History and a Juris Doctor degree from the School of Law. His foreign experience includes a one-year scholarship in the United States. Mr. Plesser is a member of the Austrian Bar Association and a partner of Heller, Lober, Bahn & Partners. He specializes in mergers and acquisitions as well as in direct foreign investments in Central and Eastern European countries, and counsels a wide range of clients on a variety of matters, including the environmental aspects of business transactions.

Paul Luiki graduated from the University of Iowa School of Law and practiced environmental law for several years at a large law firm in the United States prior to joining Heller, Lober, Bahn & Partners. Since then he has also obtained a law degree from the University of Vienna School of Law. He specializes in environmental matters, including counseling clients on potential clean-up liability, as well as the environmental aspects of business transactions.

Heller, Lober, Bahn & Partners, one of the largest law firms in Austria, has its main office in Vienna and presently maintains foreign offices in Budapest, Prague, and Bratislava. The firm has extensive experience in all kinds of corporate law matters and provides advice in environmental matters. Its environmental work includes due diligence investigations, contract negotiation, assessment of compliance with environmental laws, and negotiations with regulatory authorities.

China

Danian Zhang, a graduate of Duke University Law School and Fudan University Law School, is an American attorney with the international firm of Baker & McKenzie in Hong Kong, where he specializes in international investment and trade laws of People's Republic of China. He clerked in both Shanghai and Shenzhen international economic law firms and was a member of the Research Group on the Implementation of the Chinese Economic Contract Law organized by the Standing Committee of Shanghai People's Congress. Mr. Zhang was formerly with Sidley & Austin's Washington, D.C. office.

Shizhong Dong is Professor of Law at Fudan University School of Law in Shanghai, China. He has served as Dean of the Fudan Law

School, Research Fellow for the Standing Committee of the National People's Congress of China, and as Legal Advisor to Chinese delegations to the United Nations.

Czech Republic

Jana Zimmer is a Czech-born attorney educated in Canada and California. She received M.A. and CPhil degrees in French language and literature from the University of California in 1969 and 1974, and her J.D. from Loyola University, Los Angeles in 1979. She is a member of the California Bar, and is admitted to practice before the Ninth Circuit and the United States Supreme Court. Ms. Zimmer regularly visits the Czech Republic, and she maintains contacts there in the environmental field.

Ms. Zimmer was formerly the Chief Deputy County Counsel for the County of Santa Barbara, where she supervised attorneys advising and litigating major land use and environmental issues, including offshore oil and gas development, subdivisions, coastal protection, and growth management. Since establishing her own practice in 1991, Ms. Zimmer has represented nongovernmental organizations (NGOs), public entities, and private parties in litigation and administrative proceedings before state and local agencies on a wide range of environmental matters.

Ms. Zimmer is past Chair of the Public Law Section Executive Committee of the California State Bar, and is an inaugaral member of the Environmental Law Section Executive Committee. She is a member of the Air Pollution Control District Hearing Board of the County of Santa Barbara, teaches land use and environmental law through the University of California Extension Program, and trains members of public boards and commissions and citizen groups in the effective use of the regulatory process.

European Union

Trevor Adams was educated and taught at Queens University, Belfast between 1969 and 1982. He was awarded the degrees of BSc, BAgr, and PhD. He undertook further environmental research at Rothamsted experimental station, England from 1982 to 1984. He was a technical assistant and later a solicitor at McKenna & Co. between 1984 and 1990, specialising in environmental matters. From 1990 to 1995 he was at Ashurst Morris Crisp and was head of environmental law there. In 1995 he joined Allen & Overy. He is a member of the Council of Management of the EU United Kingdom Environmental Law Association, and is a member of the Royal Society of Chemistry. He specialises in the environmental aspects of business and real estate transactions. He joined the staff at the College of Law in 1997.

France

André Soulier, the firm's founding partner, is a well-known litigator in France in criminal and commercial matters. He has successfully defended many large corporations involved in environmental lawsuits.

Formerly a member of the Conseil d'Etat (France's highest administrative court), ***Christian Gabolde*** has written many articles on the subject of "installations classées." He advises clients on environmental regulatory matters.

A professor of law as well as a practicing attorney, ***Jean-Christophe Galloux***'s expertise lies in the area of technology-related and environmental matters. At the request of the French National Parliament, he recently prepared a report recommending regulation of biotechnology matters in France.

Founded in 1960, the law firm of ***Soulier Reinard Azéma & Associés*** presently consists of 14 attorneys, including five partners, with offices in Paris and Lyon. In addition to a strong civil and commerical national practice, the firm has an active international department, which is led by Jean-Luc Soulier. He and Carol Fox, an American attorney with the firm, actively participated in drafting the English version of this chapter.

Germany

Dr Herbert Posser, born September 27, 1962; admitted to the bar 1993; Dr. iur. 1993 (University of Münster); Faculty Assistant 1988-1992 University of Münster; joined the firm in 1993; fluent in English; specializes in German Administrative Law and Environmental Law with a special focus on Waste Management Law, Emission Control Law and Nuclear Energy Law; he advised industrial clients on a full range of environmental and planning issues and represents them in court; Publications: "Die Subsidiarität der Verfassungsbeschwerde" (1993); "Öffentlich-rechtliche Grundlagen der Altlastensanierung" (1995); "Recent developments in German Environmental Law", Journal of the UK Environmental Law Association (1995/1996); Memberships: Officer in the Section on Energy & Natural Resources Law, Committee E (Nuclear Law); European Environmental Lawyers Association (EELA); Gesellschaft für Umweltrecht (GFU); Arbeitsgmeinschaft Verwaltungsrecht des Deutschen Anwaltsvereins (DAV); Deutscher Juristentag (DJT).

Dr Wolf Friedrich Spieth, born November 11, 1958; admitted to the bar 1988; Dr. jur. 1991 (University of Freiburg/Breisgau); joined the firm 1988, partner 1992; covers the full range of environmental and planning law, in particular, immission control law, environmental clean-ups, waste management, contracts under administrative law,

mining law. He has extensive experience in licensing procedures for installations (e.g. refineries, paper mills, power plants, waste disposal sites, pipelines). He is especially familiar with environmental issues in East Germany. In this respect he advises and acts in current legal matters concering the Federal Republic/Laender financing of environmental clean-ups of major industrial contaminations and of lignite and mining projects. Dr. Spieth is partner in the environmental and planning law department of the Berlin office. Author of numerous articles, e.g. "Beteiligung an der Rechtsetzung der Raum-und Umweltplanung," 1993; "Die Sanierung von Altlasten auf der Grundlage der Freistellung nach Umweltrahmengesetz in den neuen Bundesländern," altlasten spektrum 1994, 199; "Öffentlich-rechtlicher Vertrag für Altlasten", altlasten spektrum 1996, 163; "Umfang und Grenzen der Nachsorgepflicht des Anlagenbetreibers," Betriebs-Berater 1996, 1893.

Italy

Dobson & Sinisi is a multinational law firm based in Europe and the United States. It is staffed with both American and European attorneys who may appear and litigate in the local courts. Since the opening of the firm's practice in the early 1980s, the firm has expanded to include 36 lawyers with offices in Milan, Rome, Brussels, London, Athens, New York, Atlanta, and San Diego. The firm represents many Italian companies in relation to environmental matters, particularly in the north of Italy, which is the most highly industrialized region. The firm has acted for Italian subsidiaries of United States multinational companies in relation to international environmental law disputes and also in relation to litigation against the vendors of Italian companies to U.S. multinationals where there has been failure to disclose environmental law issues.

Vincenzo Sinisi was educated at the University of Bari, Italy, before attending Yale Law School as a visiting scholar. He was also a National Research Council Scholar. He is a partner in the Milan and Rome offices.

John R. Hurt was educated at the University of California, Berkeley and the Cornell University School of Law. He is a partner in the Milan, Rome, and New York offices.

Roberta Ceschini was educated at La Sapienza Univeristy, Rome. She is an associate in the Milan and Rome offices.

Japan

Professor Akio Morishima is Professor of Law at Nagoya University in Japan. Since 1988 he has been Dean of the School of Law.

Professor Morishima is a 1958 graduate of the University of Tokyo. In 1968 he received an LLM degree from Harvard Law School. Professor Morishima has concentrated his work in Japanese environmental and tort law and has authored several publications in these areas. In addition to being a member of the Central Council of Pollution Control of the Environmental Protection Agency, Professor Morishima is a member of the Legislative Council of the Ministry of Justice.

Netherlands

Huug. H. Luigies studied law at the University of Utrecht. He was admitted to the Rotterdam bar in 1975. Since 1984 he has been partner of the law firm Nauta Dutilh and practices environmental and zoning law. He is a member of the Executive Committee of the Environmental Law Society in the Netherlands.

With 270 attorneys, ***Nauta Dutilh*** is one of the largest law firms on the continent of Europe. The head offices of the firm are located in Rotterdam and Amsterdam, with branches in Breda, Eindhoven, Brussels, Paris, Madrid, New York, Singapore, Jakarta and Beijing. Through its specialized departments, the firm handles all aspects of Dutch, European Community and international law.

South Korea

Tae Hee Lee (College of Law, Seoul University, LL.B., 1962; Graduate School of Law, Seoul National University, 1962-1963; Harvard Law School, LL.M., 1971, J.D., 1974) is the Senior Partner of Law Offices Lee & Ko, Seoul, Korea, and a member of the Korea and California Bar Associations.

Norbert W. Suguyan, Jr. (New York University Law School, LL.M. in Corporate Law, 1989; Notre Dame Law School, J.D. 1986; University of Michigan, B.A., 1983) was a Legal Consultant with Law Offices Lee & Ko, Seoul, Korea until September 1991, and is a member of the Texas Bar Association.

Law Offices Lee & Ko is one of the largest full-service law firms in Korea. The firm has significant experience in representing both Korean and international clients in the areas of environmental regulatory compliance and litigation matters. Law Offices Lee & Ko also specializes in the areas of international commercial transactions, banking, securities, corporate, arbitration, litigation, admiralty, aviation, and intellectual property and trademark and patent matters.

United Kingdom

Ian Doolittle was educated and taught at Oxford University between 1971 and 1982. He was awarded the degrees of MA and DPhil.

He attended the College of Law between 1982 and 1983 and then joined Ashurst Morris Crisp. After qualification as a solicitor he joined the firm's Commercial Property Department. He has worked for a wide range of clients and has gained particular experience in the fields of urban regeneration, housing, and highways. Ian was appointed coordinator of the firm's Environmental Law Group in 1989. He became a Senior Associate of the firm in 1990. Ian is Bulletin and Consultant Editor of the *Control of Pollution Encyclopedia*, published by Butterworths. He is also a member of the editorial board of *Land Management and Environmental Law Report*. Ian specializes in the environmental aspects of business and real estate transactions.

Ashurst Morris Crisp is a leading firm of solicitors in the City of London with offices also in Brussels, Paris, and Tokyo. It has extensive experience in business and real estate transactions of every kind. Its Environmental Law Group advises clients on a wide range of environmental matters and its work includes due diligence investigations and indemnifications to protect corporate purchasers, the identification and allocation of liability for contaminated land in the context of major urban regeneration schemes, and negotiations with regulatory authorities in cases of alleged violation of environmental laws.

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