

PART II

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IV. The Commons as a Model for Ecological Governance

In this Section IV, we outline the potential of the Commons as a model or template for ecological governance favorable to the rights of both nature and human beings.³²⁶ We do so, first, by describing the near-forgotten history of commons, its rediscovery by social scientists over the past thirty years, and the burgeoning global commons movement that is now emerging. We do so also by clarifying how the worldwide commons movement now emerging is demonstrating a range of innovative, effective models capable of assuring operational as well as theoretical shelter for diverse expressions of the right to environment.

Both the past and contemporary history of commons are important because they show the feasibility of commons governance in a wide variety of circumstances over centuries. Over the past thirty years, contemporary scholarship has rediscovered the Commons, illuminating its cooperative management principles as a counterpoint to conventional economics and particularly to its growth imperatives, artificially created scarcities, and consumerism. A key lesson we shall learn is that commons have a natural vitality conducive to environmental (and social) well-being.

But the overriding challenge for our time, as several times emphasized, is to devise an architecture of law and public policy that can legally recognize and support this vitality. Commoners (sometimes the general public, other times a distinct community) must be empowered to prevent Market enclosure of their shared natural resources and directly advance and defend their human and ecological rights—and the State must at least sanction such activity, if not affirmatively support it. Either way, it is clear that the State cannot play this role without first understanding the value-proposition of the Commons and then adopting suitable legal principles and policies to support it.

Let us be very clear. The challenge is not to establish separate and “pure” commons, untouched by either the State or the Market. This is arguably impossible in any case. Commons tend to be inscribed within larger systems of power, and the State, Market, and Commons are intertwined in complicated ways. But it is important that State Law and public policy empower the Commons sector so that it can preserve its essential integrity and value proposition. To advance this perspective is the goal of the following pages treating the history, scholarship, and contemporary emergence of the Commons paradigm.

A. What Is the Commons?

We have argued so far that the Commons may be understood less as an ideology than as an intellectual scaffolding that can be used to develop innovative legal and policy norms, institutions, and procedures. But these new structures do not evolve of themselves; nor are they State-directed.

³²⁶ Hereinafter, as here, we use the phrase “the Commons” as convenient shorthand for commons governance (as when commoners manage one or more ecosystems or natural resources directly themselves) or governance according to commons principles (as when commoners delegate their managerial authority conditionally). For more on our use of the term “commons” generally, see *supra* note 21.

Commons are animated by commoners who have the authority to act as stewards in the management of a given set of ecological resources. A commons constitutes a kind of social and moral economy. It is also a matrix of perception and discourse—a worldview—that can loosely unify diverse fields of action now largely isolated from one another. But, as some readers may still be asking: What exactly *is* the Commons?

In its broadest sense, a commons is a governance system for using and protecting “all the creations of nature and society that we inherit jointly and freely, and hold in trust for future generations.”³²⁷ Typically, a commons consists of non-State resources controlled and managed by a defined community of commoners, directly or by delegation of authority. Where appropriate or needed, the State may act as a trustee for a commons or formally facilitate specific commons, much as the State chartering of corporations facilitates Market activity. But a commons generally operates independent of State control, and need not be State-sanctioned in order to be effective or functional.

Although the Commons is often associated with physical resources (land, air, water) or, more precisely, pools of physical resources, it is equally—indeed, most importantly—a socio-cultural phenomenon. The Commons is primarily about the self-determined norms, practices, and traditions that commoners themselves devise for nurturing and protecting their shared resources. In this acute sense, a *commons* is to be distinguished from a *common-pool resource* (CPR), a term often used to describe a good, often depletable, that is usually expensive to prevent others from using, though not impossible. Economists would say that a CPR is “subtractible”—it can be used up or become congested.

To distinguish a CPR from a commons is important because there are many possible socio-economic-political arrangements for protecting and maintaining a CPR. One can imagine *government* taking charge of a river irrigation system, for example, and deciding who may have what quantities of water, and under what terms. Or one can imagine a *private owner* managing a forest CPR, exercising exclusive control of the right to sell access and use rights. Or as so often happens, a CPR could be treated as an *open access regime* in which there are no preexisting property rights or rules for managing the resource; everyone would treat the water or fish or timber as “free for the taking.”

A *commons*, however, is a quite different thing. It is a regime for managing a CPR that eschews individual property rights and State control. It relies instead on common property arrangements that tend to be self-organized and enforced in complicated, idiosyncratic social ways, and generally is governed by what we call *Vernacular Law*, the “unofficial” norms, institutions, and procedures that a peer community devises to manage community resources on its own. State Law and action may set the parameters within which Vernacular Law operates, but it does not directly control how a given commons is organized and managed.³²⁸ In this way, the Commons operates in a quasi-sovereign manner, largely escaping the centralized mandates of the State and the structures of Market exchange while mobilizing decentralized participation “on the ground.”

³²⁷ THE STATE OF THE COMMONS: A REPORT TO OWNERS FROM TOMALES BAY INSTITUTE 3 (2003).

³²⁸ An analogy might be state chartering and oversight of corporations: general policy principles and accountability are required, but much leeway is granted to how basic responsibilities are implemented.

As we shall see below, commons governance and resource management can take many forms. Among the more salient: *subsistence commons* such as forests, fisheries, wild game, arable land, pastures, irrigation and drinking water, and wilderness; *social and civic commons* such as public schools and libraries, parks, community festivals and special-interest affinity groups; and *global commons* such as the planetary atmosphere, oceans, the polar regions, biodiversity and the human genome. In addition, there are *digital commons* on the Internet, such as free and open source software, wikis like Wikipedia,³²⁹ open-access publishing, collaborative Web archives, and content pools tagged with Creative Commons licenses.

Studying commons requires that we transcend the limitations of conventional economics by taking into account the larger social, human, and ecological context of economic activity. We must scrutinize the actual costs and benefits of economic activity in its entirety and see them holistically, not just as they affect individuals. We must evaluate a community's values, norms, and social practices. The theater of relevant inquiry extends well beyond the financial factors that a for-profit business enterprise regards as germane. To study commons is to venture into anthropology, environmental science, political science, and social psychology, as well as culture, the empirical study of specific stewardship practices, and the law. There is no universal template of a commons for the simple reason that each is rooted in particular, historically rooted, local circumstances.

The study of economics remains essential, however, if only because commons are chronically vulnerable to "Market enclosures." Enclosures occur when private business enterprises, often with the overt or tacit support of government and the law, privatize and commodify ecological resources. Enclosure is about dispossession. It privatizes and commodifies resources that may be legally owned or used by a distinct community (a rainforest, a lake, an aquifer) or that morally belongs to everyone (the humane genome, the atmosphere, wilderness). Enclosure typically aims to reap private market gains from a common asset without taking account of its full, long-term market and non-market value. It also seeks to dismantle the commons-based culture (egalitarian co-production and co-governance) and supplant it with a market order (money-based producer/consumer relationships and hierarchies). Markets tend to have thin commitments to localities, cultures, and ways of life because such commitments may "interfere" with market exchange and thereby diminish (monetary) wealth-creation. For most commons, however, socially rooted commitments to a particular place, resource and community are essential.

Property theorist John Locke famously declared that one has a natural right to assert private property rights in things that one makes with one's own labor. Usually omitted from Locke's formulation, however, is his significant added qualification: "at least where there is *enough, and as good, left in common for others*."³³⁰ Locke does not develop this idea; he is, after all, intent on establishing the moral and legal justifications for private property. Still, he raises an issue that cannot be simply ignored: the exercise of private property rights may encroach upon and even destroy resources that belong to everyone.

³²⁹ Wikis are simple web pages that groups can edit together.

³³⁰ JOHN LOCKE, TWO TREATISES OF GOVERNMENT 329 (1965) (emphasis added).

Enclosures usually describe intrusions upon recognized commons or public property, particularly when they rely upon coercion, disenfranchisement, under-payment, or simple trespass. But by Locke's own formulation, enclosure may also be fairly applied to open-access regimes where "no one" owns the resource. The question is, however, whether any element of nature is truly *res nullius*—an inert object that can be privately owned without regard for a given community or humanity as a whole. Indigenous peoples and peasants frequently rely upon open-access common pool resources for subsistence, yet rarely have formal legal title. Surely their subsistence-use constitutes some form of moral entitlement that should not be regarded as a nullity simply because a commercial enterprise exerted some labor to appropriate something that did not belong to it in the first place. Similarly, as inhabitants of the planet, every human being may not have formal legal ownership of the atmosphere or oceans, yet we do have at least a collective ethical entitlement to their preservation as healthy planetary ecosystems—some say even a *legal* entitlement, in fairness to future generations at least.³³¹

Enclosures are justified as a necessary means to increase production of material wealth. The appropriated lands and other resources are usually regarded as vacant or belonging to no one (*res nullius*) and therefore without value in the first place. To victimized commoners who have used a resource in a collective fashion for non-market, subsistence purposes, however, enclosure is an experience of profound dispossession and violation. For them, naming a commons as a commons is the first step toward protecting and reclaiming collective resources. It is a way of reclaiming what they once enjoyed as a matter of right and in a larger sense, it is about reclaiming their identities.

Enclosure is now a pervasive dynamic. Multinational bottling companies are laying claim to groundwater supplies and freshwater basins that once sustained local ecosystems and communities.³³² Agriculture-biotech companies are actively supplanting conventional crops with proprietary, genetically modified crops whose seeds are sterile or may not be shared.³³³ High-tech industrial trawlers are eclipsing coastal fishing fleets and over-exploiting ocean fisheries to the point of exhaustion.³³⁴ Biotech companies and universities have now patented approximately one-fifth of the human genome.³³⁵ Many companies enjoy free or cut-rate access to minerals, grazing areas, and timber on public lands.³³⁶

³³¹ See, e.g., BROWN WEISS, *supra* note 97; see also, Weston (2008) and Weston 2012), *supra* note 99.

³³² See, e.g., MAUDE BARLOW, *BLUE COVENANT: THE GLOBAL WATER CRISIS AND THE COMING BATTLE FOR THE RIGHT TO WATER* (2009); ELIZABETH ROYTE, *BOTTLEMANIA: BIG BUSINESS, LOCAL SPRINGS AND THE BATTLE OVER AMERICA'S DRINKING WATER* (2009); ALAN SNITOW & DEBORAH KAUFMAN (WITH MICHAEL FOX), *THIRST: FIGHTING THE CORPORATE THEFT OF OUR WATER* (2007).

³³³ See, e.g., KEITH AOKI, *SEED WARS: CONTROVERSIES AND CASES ON PLANT GENETIC RESOURCES AND INTELLECTUAL PROPERTY* (2008).

³³⁴ See, e.g., CHARLES CLOVER, *THE END OF THE LINE: HOW OVERFISHING IS CHANGING THE WORLD AND WHAT WE EAT* (2006); DANIEL PAULY & JAY MACLEAN, *IN A PERFECT OCEAN: THE STATE OF FISHERIES AND ECOSYSTEMS IN THE NORTH ATLANTIC OCEAN* (2003).

³³⁵ Kyle Jensen & Fiona Murray, *Intellectual Property Landscape of the Human Genome*, 310 *SCIENCE* 239, 239 (Oct. 14, 2005).

³³⁶ See, e.g., David Bollier, *The Abuse of the Public's Natural Resources*, in BOLLIER, *supra* note 2, at 85-97.

One reason that enclosures are tolerated and even welcomed by some is because one person's enclosure is often another person's idea of freedom and progress. The private economic gains generated by converting natural resources into marketable products are enormous. They also tend to produce many secondary, spillover benefits for society, such as jobs, products, and economic growth. But these gains can be illusory or unsustainable. When the scope of property rights and Market activity compromises the integrity of ecosystems, "economic development" is but another name for cannibalizing nature's capital. In such circumstances, Market activity becomes ecologically destructive and anti-social, and not a net gain for society. As economist Herman Daly has pointed out in his 1996 book, *Beyond Growth*,³³⁷ the core problem with modern-day economic theory is that it fails to differentiate between mere growth in the volume of Market activity (e.g., Gross Domestic Product) and healthy, socially beneficial development that can be ecologically sustained over time.

The Commons offers a vocabulary for talking about the proper limits of Market activity—and enforcing those limits. Commons discourse helps force a conversation about the "Market externalities" that often are shunted to the periphery of economic theory, politics, and policymaking. It asks questions such as: How can appropriate limits be set on the Market exploitation of nature? What legal principles, institutions, and procedures can help manage a shared resource fairly and sustainably over time, sensitive to the ecological rights of future as well as present generations?

There is a rich body of academic literature that explores many of these questions, much of it is focused on the use of natural resources in the so-called developing world. There has been far less examination of how modern, industrialized countries might balance Market activity and the environment more prudently. This is due in part to the intellectual premises and worldview of neoliberal economics, which, since the collapse of the Soviet Union in 1991 especially, has become the dominant framework for political culture and public policy in industrialized societies worldwide.

In this political and cultural context, the Commons as a system of management and culture has been largely marginalized and ignored over the past generation—doubtless a reason why the right to environment has surfaced in recent years as a serious if struggling claim against the dominant order. Mainstream economists presume that individual property rights and Market exchange are the most efficient, responsible means for allocating access to, and use of, natural resources and for generating material wealth and "progress." Historian Francis Fukayama famously proclaimed "the end of history" in 1991 to celebrate the triumph of neoliberal markets and liberal democracy.³³⁸ It is no surprise that in respectable circles the commons is generally seen either as a failed management system or an inefficient vestige of pre-modern life, or both. Yet the history of the commons tells a very different story.

B. A Brief History of Commons Law and the Right to the Environment

The Commons extends into the deep mists of pre-history as a set of social practices and, as societies became more organized, into formal law as well. It has flourished as if by spontaneous

³³⁷ HERMAN E. DALY, *BEYOND GROWTH: THE ECONOMICS OF SUSTAINABLE DEVELOPMENT* (1996).

³³⁸ FRANCIS FUKAYAMA, *THE END OF HISTORY AND THE LAST MAN* (1992).

self-organization in human societies with and without the support of larger systems of power. Formal law is by no means essential to the functioning of a commons, though it can certainly help many types of commons function more effectively, if only by reducing the threat of enclosure. In any case, “commoning” (the social practices by which commoners manage their shared resources) has been a pervasive and durable governance system for assuring judicious and equitable access to and use of nature.³³⁹

The instinct to establish commons may be a deeply rooted aspect of humanity. A growing body of scientific evidence suggests that social trust and cooperation may be an evolutionary force “hard-wired” into the human species. If true, many 18th and 19th Century notions of human beings as autonomous, selfish, rational individuals, upon which entire political and economic philosophies and institutional structures are built, deserve to be re-visited and re-thought. The idea of *homo economicus*, which modern-day economists and political theorists presume to be a universal norm, may in fact have very little basis in fact or history.

The more relevant matrix of human behavior, according to many evolutionary scientists, may be *social exchange*. When geneticists, evolutionary biologists and mathematical game theorists evaluate the “fitness” of an evolutionary adaptation or mutation, they often look for traits that cannot be displaced by other mutations or phenotypes. These traits are called “evolutionary stable strategies” (ESS) and, as such, are regarded as deep and enduring aspects of human nature. In summarizing some of this literature, Clippinger and Bollier write:

Recent studies have argued that the notion of “reciprocal altruism” is an ESS. So are many innate “social contracting algorithms” of the human brain. What makes this evidence especially compelling is that the ESS approach can successfully predict what kinds of “strategies” and even special competences will emerge in different social exchange networks. For example, many different species—vampire bats, wolves, ravens, baboons, and chimpanzees—exhibit similar social behaviors and emotions such as sympathy, attachment, embarrassment, dominant pride, and humble submission. Both ravens and vampire bats can detect cheaters and punish them accordingly—a skill needed to thwart free-riders and maintain the integrity of the group.

This indicates that “cooperative strategies” have evolved in different species and, because of the evolutionary advantages that they offer, become encoded in their genome. While much more needs to be learned in this area, evolutionary sciences appear to be identifying some of the basic principles animating the “social physics” of human behavior.³⁴⁰

If human beings are neurologically hard-wired to be empathic and cooperative, as many studies suggest, and if this occurs at the species level, and not at an individual level, then rational-actor

³³⁹ For a definition of “commoning” steeped in history, see *supra* note 286.

³⁴⁰ John Clippinger & David Bollier, *A Renaissance of the Commons: How the New Sciences and Internet are Framing a New Global Identity and Order*, in RISHAB AIYER GHOSH, CODE: COLLABORATIVE OWNERSHIP AND THE DIGITAL ECONOMY 266-67 (2005). A fuller treatment of these themes can be found in JOHN CLIPPINGER: A CROWD OF ONE: THE FUTURE OF INDIVIDUAL IDENTITY (2007).

models of human behavior—which are the basis for so many game theory and “prisoner’s dilemma” scenarios—may misrepresent how human beings actually behave “in the field.”

In many respects, it makes sense to see social exchange as the framework in which humans and societies develop. Personal identity cannot really exist, after all, without history and culture; people are not really de-contextualized, atomistic units. Language is thought to have arisen as a way to serve important social-bonding purposes, and evolutionary anthropologists and geneticists have documented the presence of reciprocal altruism in various species.³⁴¹ This suggests that principles of natural selection may be literally manifested in the genes and physiology of *homo sapiens*, and that by the lights of 21st Century science, cooperative behaviors may constitute a contemporary form of “natural law.”³⁴²

Social Darwinism is a cautionary history about presuming more about “human nature” than scientific evidence can support. Still, it is encouraging that many scientists believe that cooperation is an inborn human capacity that enhances our long-term struggle to survive. This is a more hopeful, socially constructive storyline for political theory and economics than that of the Hobbsean savage that has prevailed for centuries.

Abundant evidence of commoning can be found throughout human history. Hunter-gatherer and foraging societies were often nomadic, following seasonal and migratory changes for subsistence, which makes it unlikely that they allowed private-property rights in land.³⁴³ Cooperation and collective action were certainly factors in the development of prehistoric agriculture. As one scholar argues, territoriality and storage were necessary for agricultural experimentation; neither could have evolved among individuals acting in purely selfish ways. “No family is strong enough to

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³⁴¹ See, e.g., LEDA COSMIDES & JOHN TOOBY, *EVOLUTIONARY PSYCHOLOGY: A PRIMER* (2002); ELLIOT SOBER & DAVID SLOAN WILSON, *UNTO OTHERS: THE EVOLUTION AND PSYCHOLOGY OF UNSELFISH BEHAVIOR* (1998).

³⁴² See, e.g., ROBERT AXELROD, *THE EVOLUTION OF COOPERATION*, REVISED EDITION (2006); AXELROD, *THE COMPLEXITY OF COOPERATION: AGENT-BASED MODELS OF COMPETITION AND COLLABORATION* (1997); Peter Kollock, *Social Dilemmas: The Anatomy of Cooperation*, 24 ANN. REV. SOC. 183-214 (1998).

³⁴³ In instances where hunter-gatherers did attach themselves to a fixed piece of land (becoming so-called “central-place foragers”), they developed communal plots of land for shared use. In the Rio Asana valley of the Andean Highlands, for example, residential structures were grouped around a single public structure that was “used as a dance floor, public space or . . . as a probable focus of intensive, restricted worship.” Mark Aldenderfer, *Costly Signaling, the Sexual Division of Labor, and Animal Domestication in the Andean Highlands*, in *BEHAVIORAL ECOLOGY AND THE TRANSITION TO AGRICULTURE* 167, 180 (Douglas J. Kennet & Bruce Winterhalder eds., 2006) (hereinafter “BEHAVIORAL ECOLOGY”).

defend its fields or stores of food in settings where everyone is motivated wholly by self-interest,” writes Robert L. Bettinger.³⁴⁴ Religion also played some role in prehistoric conceptions of land ownership.

Water provides the earliest clear examples of communal resource use and management, perhaps because water is indispensable to life. Most societies have developed systems for sharing water used for navigation, fishing, irrigation, and drinking. Collective management was made easier by the constant flow of water through the hydrological cycle, which made the private capture and enclosure of water difficult (a barrier that modern-day appropriators have overcome through innovative technologies and anti-social laws).

In eastern Africa, early nomadic Somalians who traveled great distances across deserts dug wells by hand at regularly spaced intervals to provide drinking groundwater for their caravans of people and cattle. These wells later served as the foundation for small desert communities and larger cities.³⁴⁵ Since around 1000 B.C.E.,³⁴⁶ civilizations in southwest Asia, North Africa, and the Middle East arose as people built *qanats*—water delivery systems consisting of a mother well and long, gently sloping underwater delivery tunnels—to secure reliable water supplies.³⁴⁷

In Mesopotamia, where the Euphrates was prone to flood and uncontrolled irrigation led to pollution of the soil, State ownership of riparian lands and irrigation works helped spread risks and prevent the degradation of common goods.³⁴⁸ The Code of Hammurabi (*circa* 1750 B.C.E.), provided that “[i]f a man has opened up his channel for irrigation, and has been negligent and allowed the water to wash away a neighbors field, he shall pay grain equivalent to [the crops of] his neighbors,” demonstrating strict social justice regulation of the common irrigation works.³⁴⁹

³⁴⁴ Robert L. Bettinger, *Agriculture, Archaeology, and Human Behavioral Ecology*, in BEHAVIORAL ECOLOGY, *supra* note 343, at 310–11. Yet alongside cooperation in agriculture, the idea of exclusive private property also took root. As some scholars have argued, “It is inconceivable that, from the very beginning, the first farmers did not exclude outsiders from sharing the fruits of their labour.” D.C. North & R.P. Thomas, *The First Economic Revolution*, 30 ECON. HISTOR. REV. 229, 235 (1977). This does not imply a sense of individual ownership of the land, however. While some enclosure would have been necessary as a practical measure to demarcate fields and contain herds of livestock, “[e]arly societies probably did not conceive of land as an asset, and investment, or a factor of production,” according to JOHN P. POWELSON, *THE STORY OF LAND: A WORLD HISTORY OF LAND TENURE AND AGRARIAN REFORM* (1988). Particular tracts of land were often associated with people, such as clans or tribes, who lived upon it and could defend it: “Much land was group-owned if it was owned at all,” writes Powelson, at 3. In early Mesopotamia, collectively owned land belonged to a god or goddess, not individuals.

³⁴⁵ THOMAS V. CECI, *PRINCIPLES OF WATER RESOURCES: HISTORY, DEVELOPMENT, MANAGEMENT, AND POLICY* 2 (2d ed., 2005).

³⁴⁶ “Before the Common Era,” a secular alternative to B.C., “Before Christ.”

³⁴⁷ *Id.*

³⁴⁸ JOSHUA GETZLER, *A HISTORY OF WATER RIGHTS AT COMMON LAW* 10 (2004).

³⁴⁹ Code of Hammurabi §§55-56, *as rendered in* J.N. POSTGATE, *EARLY MESOPOTAMIA: SOCIETY AND ECONOMY AT THE DAWN OF HISTORY* (1992).

The elaborate aqueducts and civil hydraulic systems of the Roman Empire were indispensable to the development of that civilization. Public rights of access to the water works were protected by the *Lex Quinctia* of 9 B.C.E., which declared: “It is not the intent of this law to revoke the right of persons to take or draw water from these springs, mains, conduits, or arches to whom the curators of the water supply have given or shall give such right, except that it is permitted with wheel, water regulator, or other mechanical contrivance, and provided that they dig no well and bore no aperture into it.”³⁵⁰

The Ancient Romans were the first society in recorded history to have made explicit laws regarding distinct categories of property, including common property. According to Gaius, writing in approximately 161 C.E., things (*res*) were classified according to whether they should or should not be privately owned. There were several categories of property that could *not* be privately owned.³⁵¹ The first of these was *res communes*, or things owned in common to all: “Public things are regarded as no one’s property; for they are thought of as belonging to the whole body of the people.”³⁵² Although such things could not be owned, the law recognized a right to enjoy them: “deliberate interference with enjoyment could result in a delictual remedy for insulting behavior.”³⁵³

Res communes—a category of law enshrined by Emperor Justinian in 535 A.D.—is of particular importance to us as the first legal recognition of the commons:

By the law of nature these things are common to mankind—the air, running water, the sea and consequently the shores of the sea... . Also all rivers and ports are public, so that the right of fishing in a port and in rivers is common to all. And by *the law of nations* the use of the shore is also public, and in the same manner, the sea itself. The right of fishing in the sea from the shore *belongs to all men*. . . .³⁵⁴

Through this codification, neither the State nor ordinary citizens could make proprietary claims upon resources that belong to everyone. This concept is arguably the earliest manifestation of what

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³⁵⁰ LEX QUINCTIA DE AQUAEDUCTIBUS, Art. 9 (trans. P. Birks), *cited in* GETZLER, *supra* note 348, at 11.

³⁵¹ GAIUS, INSTITUTES OF GAIUS 2.1, *cited in* ANDREW BORKOWSKI & PAUL DU PLESSIS, TEXTBOOK ON ROMAN LAW 154 (2005).

³⁵² *Id.*

³⁵³ BORKOWSKI & DU PLESSIS, *supra* note 351, at 154.

³⁵⁴ INSTITUTES OF JUSTINIAN 156 (Thomas C. Sandars transl., 1876), <http://www.fordham.edu/halsall/basis/535institutes.html#I.%20Divisions%20of%20things> (follow link for Book Two, Title 1) (accessed Mar. 20, 2010) (hereinafter “INSTITUTES”).

in American law is known as the “public trust doctrine,” a concept that has analogues in most legal systems of the world and indeed in many of the world’s major religions.³⁵⁵ We return to the public trust doctrine in Section V.

Another category of property that private individuals could not own was *res publicae*, or public things, which belong to the State.³⁵⁶ This category included public roads, harbors, ports, certain rivers, bridges, and conquered enemy territory.³⁵⁷ Provincial land was further subdivided into senatorial and imperial provinces—the former belonged to the Roman people, but the latter belonged to the Emperor.³⁵⁸ There were other categories of property enumerated as well.³⁵⁹

It is worth pausing to note an early instance of a political tension that recurs throughout history: the State’s assertion of power to act as a trustee for the public interest versus the inherent rights of the people to manage *res communes* as self-organized commons. The State and commoners often have very different ideas about how best to manage *res communes* for the commons good.

For example, when the Roman Empire claimed rights to manage water through a centralized, formal body of water law, a unitary legal regime displaced the plural systems of customary water rights that had prevailed in conquered territories. While the centralization of Roman law in theory made water management more rational, uniform, and fair, it also gave political elites special opportunities to assert their own privileged access to water and to dispossess less favored parties in the provinces.³⁶⁰ Petty and grand corruption of the formal legal system also opened the door for the legal privatization and over-exploitation of scarce water supplies—i.e., State-sanctioned enclosures.

³⁵⁵ As noted by Mary Christina Wood, “[l]eaders of the world’s major religions have declared a spiritual duty to protect nature.” See Carrie McGourty, *Prayer to End Climate Change* ABC World News, Sept. 7, 2007, <http://abcnews.go.com/WN/GlobalWarming/Story?id=3572327&page=1> (accessed Aug. 3, 2011), in *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part I): Ecological Realism and the Need for a Paradigm Shift*, 39 ENVTL. L. 65 n. 112 (2009); see also Weston (2008), *supra* note 99, at notes 154-57 and accompanying text.

³⁵⁶ BORKOWSKI & DU PLESSIS, *supra* note 351, at 154.

³⁵⁷ *Id.*

³⁵⁸ *Id.*

³⁵⁹ Things that were intended for the use of a public corporate body—such as a municipality or colony—was termed *res universitatis*: public streets and buildings, theaters, parks, racecourses, and stadia. Finally, *res nullius* described things belonging to no one, including wild animals, abandoned property, and “divine” things; the last of which were further divided into *res sanctae*, or things considered to be protected by the gods such as city walls and gates; *res religiosae*, or tombs, sepulchers, mausoleums, cenotaphs, and some land used for burial; and *res sacrae*, or things formally consecrated and dedicated to the gods like temples or shrines. *Id.* at 154–55.

³⁶⁰ As skillfully documented and described in B. van Koppen, et al., *Roman Water Law in Rural Africa: Dispossession, Discrimination and Weakening State Regulation?* (paper presented at the International Association for the Study of the Commons conference, Hyderabad, India, January 2011, on file with the authors).

This pattern was replicated in the 16th to 19th Centuries when the European colonial powers imposed Roman water law on their new colonies.³⁶¹ The State effectively dispossessed small-scale, traditional, local users of water—a process that returned in the late 20th Century when states instituted compulsory permit systems for water usage, and in our times, when international investors buy rights to land and water traditionally used by commoners. In each case, national governments claimed to act as public trustees, but their permit systems and investment policies served to displace and de-legitimize local, traditional commons management, which was likely more ecologically benign. State-based permitting of water use appears to be “finishing the unfinished business of colonial dispossession.”³⁶²

This tension between dominant systems of power and commons continued after the fall of the Roman Empire and the beginning of the Dark Ages. Kings and feudal lords throughout Europe started claiming the right of access to “public resources” previously protected as *res communes* under Roman law.³⁶³ In 13th Century England, following the Norman Conquest, a series of monarchs claimed increasingly large swaths of forest for their own recreation and profit at the expense of barons and commoners. Rather than viewing the forests as a commonly owned asset of the people, the Normans proclaimed all such land to be the exclusive property of the king: “It was the supreme status symbol of the king, a place of sport.”³⁶⁴ Kings “bypassed the customs of the forests that had prevailed since Anglo-Saxon times.”³⁶⁵

These royal encroachments on commons had a devastating impact on medieval English life. As historian Peter Linebaugh notes, whole towns were timber-framed, the tools and implements of the commoner were all wood-wrought, and wood was the primary source of light and heat.³⁶⁶ The English naturalists Garrett Jones and Richard Mabey noted: “More than any other kind of landscape they [forests] are communal places, with generations of shared natural and human history inscribed in their structures.”³⁶⁷ Thus, when the King expanded his claims over the forest, he drastically reduced commoners’ access to food, firewood, and building materials, while his sheriffs meted out brutal punishments to anyone trying to reclaim commons resources.³⁶⁸ In everyday terms, this meant that commoners were denied access to common pastures for their cattle. Livestock were not allowed to roam the forests. Pigs, a major source of food, could not eat acorns from the forest. Commoners could not take wood, timber, bark and charcoal from the forest to fix their homes and build fires for meals. Private causeways and dams often made it impossible to navigate rivers.

³⁶¹ *Id.*

³⁶² *Id.*

³⁶³ See GEOFFREY HINDLEY, A BRIEF HISTORY OF THE MAGNA CARTA (2008).

³⁶⁴ *Id.*

³⁶⁵ LINEBAUGH, *supra* note 280, at 34.

³⁶⁶ *Id.* at 33–34.

³⁶⁷ GARETH LOVETT JONES & RICHARD MABEY, THE WILDWOOD: IN SEARCH OF BRITAIN’S ANCIENT FORESTS (1993).

³⁶⁸ *Id.* (quoting J.R. Maddicott, *Magna Carta and the Local Community*, in, 102 PAST & PRESENT 37, 72 (1984)).

Women, especially widows, depended upon the Commons to gather food and fuel, and disproportionately suffered as commons were enclosed, particularly as targets of witch hunts.³⁶⁹

As described in Section III, a long series of armed conflicts culminated with the signing of the Magna Carta in 1215 and the Charter of the Forest in 1217,³⁷⁰ the latter formally recognizing and protecting certain rights of commoners, such as stipulated rights of pasturage (grazing for their cattle), piscary (fishing in streams), turbary (cutting of turf to burn for heat), estovers (forest wood for one's house), and gleaning (scavenging for what's left in the fields after harvest).³⁷¹ The Charter remained the law governing commons for more than 800 years, making it one of the longest-standing laws of England until it was superseded, as previously noted, by the Wild Creatures and Forest Laws Act in 1971.³⁷² As such, the Charter continues to have a special influence as the legal basis for managing commons in England.³⁷³ In the years after its ratification, the Magna Carta was regularly invoked by commoners, barons and the king alike to affirm their mutual commitment to its principles.

What formal State Law officially guarantees, however, often requires enforcement by the commons itself, through complicated forms of community self-policing, as we find today, for example, in certain Amish communities in the United States. In 18th Century England, a community often staged an annual “beating of the bounds” perambulation around the perimeter of the commons to identify—and knock down—any enclosures of the commons, such as a fence or hedge.³⁷⁴ This was a community's way of monitoring its shared resource and assuring collective access to it. Beating the bounds assured the long-term integrity of the commons. Similarly, to ensure that the common-pool resource would not be over-used and ruined, commoners insisted upon certain “stints,” both simple and elaborate, that set strict limits on commoners' use rights. As Lewis Hyde writes, “The commons were not open; they were stinted. If, for example, you were a seventeenth-century English common farmer, you might have the right to cut rushes on the common, but only between Christmas and Candlemas (February 2). Or you might have the right to cut branches of trees, but only up to a certain height and only after the tenth of November.”³⁷⁵

³⁶⁹ See especially, SILVIA FEDERICI, *CALIBAN AND THE WITCH: WOMEN, THE BODY AND PRIMITIVE ACCUMULATION* (2004). Peter Linebaugh, *supra* note 280, writes, at 40: “Wherever the subject is studied, a direct relationship is found between women and the commons. The feminization of poverty in our own day has become widespread precisely as the world's commons have been enclosed.”

³⁷⁰ See *supra* text accompanying notes 279-285.

³⁷¹ A compelling account of this history may be found in WILLIAM F. SWINDLER, *MAGNA CARTA: LEGEND AND LEGACY* 44-103 (1965); see also LINEBAUGH, *supra* note 280, at 102, 223.

³⁷² *Supra* note 285.

³⁷³ LORD EVERSLEY, *COMMONS, FORESTS AND FOOTPATHS* (1910) remains a standard, influential text on the law governing the 1.3 million acres of common land in England and Wales. The Open Spaces Society (U.K.), <http://www.oss.org.uk> (accessed Aug. 7, 2011) is the nation's leading citizens' advocate and defender of commons.

³⁷⁴ LEWIS HYDE, *COMMON AS AIR: REVOLUTION, ART AND OWNERSHIP* 32-38 (2010).

³⁷⁵ *Id.* at 34.

Here, then, is a general lesson to be drawn from the history of English commons: while State Law is vital, so is the vernacular practice of commoners. The two must be aligned and supportive of each other. That, arguably, is why the Magna Carta was necessary in the first place, to affirm in writing that traditional values and practice would be honored. The commons has been a critical governance system for assuring that “ordinary” people would have clear rights to access and use natural resources for their household and subsistence needs (as distinguished from commercial purposes).

The English battles to reclaim and preserve the commons of the 13th Century have cast a very long shadow. Their influence on American jurisprudence can be seen in the U.S. Declaration of Independence’s bold proclamation, “We the People,” which once again cast the interests of commoners against those of the monarch and State. The Commons as a source of inalienable rights also influenced various constitutional provisions, especially those of the Bill of Rights. When Congress debated the Thirteenth, Fourteenth and Fifteenth Amendments to the U.S. Constitution, it often invoked the Magna Carta as shorthand for “common rights” that are sufficiently fundamental to warrant constitutional protection.³⁷⁶

Legal recognition of the Commons, and thus the commoners’ right to the environment, has come in many other guises over the centuries as well. Following are several of the more significant commons-based legal regimes:

Common Land. Commoners around the world have relied upon shared lands for subsistence throughout history and today.³⁷⁷ There has been a long history of prehistoric agriculture, as noted above, and today over 1.6 billion people actively use the world’s forests (which comprise about 30 percent of the global land mass), often as commons. Another one billion people rely upon drylands (which constitute some 40% of the global land mass) for their subsistence.³⁷⁸ In the contemporary world, other commons-based subsistence uses of fisheries, irrigation systems, oceans and lakes, and other natural resources are widespread. However, because so many commons are based on traditional usage, and are unrecognized by formal property rights, these lands tend to be highly vulnerable to corporate and State enclosure.³⁷⁹ At the same time, formal recognition of the Commons is growing, as suggested by a landmark ruling of the Supreme Court of India in 2011

³⁷⁶ See LINEBAUGH, *supra* note 280, at 251.

³⁷⁷ An important repository of literature of this history can be found at the Digital Library of the Commons at <http://dlc.dlib.indiana.edu> (accessed July 26, 2011). Another is the Netherlands-based Institutions for Collective Action, <http://www.collective-action.info> (accessed July 26, 2011), a website with considerable literature about European commons prior to 1900.

³⁷⁸ See Ruth Meinzen-Dick, et al., *Securing the Commons* (CAPRI Policy Brief No. 4, (May 2006, at 1; http://www.capri.cgiar.org/pdf/polbrief_04.pdf (accessed July 26, 2011).

³⁷⁹ See, e.g., Liz Alden Wily/International Land Coalition, *The Tragedy of Public Lands: the Fate of the Commons under Global Commercial Pressure*, (January 2011), <http://www.landcoalition.org/es/publications/tragedy-public-lands-fate-commons-under-global-commercial-pressure> (accessed July 26, 2011).

(requiring a real estate developer to vacate a village pond he had unlawfully enclosed)³⁸⁰ and by growing advocacy on behalf of the Commons.³⁸¹ It is precisely the lack of clear legal protection for commons that makes them attractive targets for investor “land grabs,” often in collusion with governments.³⁸²

Wildlife. Like the oceans and atmosphere, wildlife has enjoyed a unique status outside of private property at least since the Roman Empire.³⁸³ Under Roman law, wild animals could become the property of anyone who captured or killed them (subject to the restriction that private landowners enjoyed the exclusive right to possess wildlife on their land).³⁸⁴ This restriction, however, was more “a recognition of the right of ownership in land than an exercise by the State of its undoubted authority to control the taking and use of that which belonged to no one in particular, but was common to all.”³⁸⁵ This classification of wildlife as a commons carried into medieval Europe; in order to maintain a common supply of fish, the Veronese code in the eleventh and twelfth centuries provided that fishnets were to have meshes two fingers wide, multi-hooked lines were prohibited, and no one was permitted to fish during the month of February.³⁸⁶

Endangered Species. In enacting the Endangered Species Act of 1973, the U.S. Congress recognized that “various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation.”³⁸⁷ The law formally recognized the “esthetic, ecological, educational, historical, recreational, and scientific value [of fish, wildlife, and plant species] to the Nation and its people.”³⁸⁸

³⁸⁰ Jagpal Singh & Others v. State of Punjab & Others, Civil Appeal No. 1132/2011 @ SLP(C) No.3109/2011 (arising out of Special Leave Petition (Civil) CC No. 19869 of 2010), http://www.elaw.org/system/files/Jagpat+Singh+judgment_details.doc (accessed July 26, 2011).

³⁸¹ The Foundation for Ecological Security, a nonprofit organization in India, is a leading example. *See, e.g.*, its book, VOCABULARY OF THE COMMONS (2011) and report on its advocacy in Rajasthan, SPACES FOR THE POOR: WORKING WITH COMMUNITIES AND COMMONLANDS IN CENTRAL ARAVALIS, RAJASTHAN, http://www.boell.de/downloads/20101029_Spaces_for_the_poor.pdf (accessed July 26, 2011).

³⁸² Hernando de Soto has famously cited this problem in THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS ELSEWHERE (2002), but his prescription is exclusively for more secure private property rights, not for more secure commons property rights. As result, powerful economic and political actors generally seek to enclose commonly held lands (for which formal property rights may not exist) and to buy up and consolidate the smaller units of disaggregated property rights.

³⁸³ *See, e.g.*, Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), June 23, 1979, 1651 U.N.T.S. 333 *reprinted in* 19 I.L.M. 15 (1980) and V BASIC DOCUMENTS, *supra* note 13, at V.H.11; *see also* MICHAEL J. BEAN & MELANIE J. ROWLAND, THE EVOLUTION OF NATIONAL WILDLIFE LAW 8 (3d ed. 1997).

³⁸⁴ BEAN & ROWLAND, *supra* note 383.

³⁸⁵ *Geer v. Connecticut*, 161 U.S. 519, 523 (1896).

³⁸⁶ RONALD E. ZUPKO & ROBERT A. LAURES, STRAWS IN THE WIND: MEDIEVAL URBAN ENVIRONMENTAL LAW—THE CASE OF NORTHERN ITALY 85 (1996).

³⁸⁷ 16 U.S.C. § 1531 (a) (1).

³⁸⁸ *Id.* at § 1531 (a) (3).

The United States government has pledged itself through various international agreements also to conserve endangered species.³⁸⁹

Wilderness conservation. Even in ancient Persia (now Iran), there were forestry conservation laws in effect as early as 1700 B.C.³⁹⁰ Pharaoh Akhenaten established nature reserves in Egypt in 1370 B.C. In the United States, George Perkins Marsh, a diplomat from Vermont saw barren tracts of nature in the Mediterranean, and theorized that the environmental collapse was caused by reckless deforestation. In his 1864 book, *Man and Nature*, Marsh predicted a similar future for the United States if forests were not protected. The book became a best-seller and the “fountainhead of the conservation movement,” in the words of one historian.³⁹¹ Partly as a result, the State of New York steadily regulated the private use of the forests in the Adirondack Mountains, and in 1885 reorganized its holdings in the Adirondacks as a forest preserve under a forest commission.³⁹² While N.Y. State protection of the Adirondacks was not without faults,³⁹³ it was the first of many steps towards the robust national and State park programs that the United States enjoys today.

Oceans and Seas. Hugo Grotius, often called the father of international law, argued in his famous treatise *Mare Liberum* (1609) that the seas must be free for navigation and fishing because the law of nature prohibits ownership of things that appear “to have been created by nature for commons things.”³⁹⁴ Powerfully motivating Grotius, who at the time was legal counsel to the Dutch East India Company, was the concern of that company to break the hegemony of Portugal and Spain, which were bent upon establishing dominion over the seas and lands divided between them along a line close to that assigned to them by Pope Pius VI. Also, a formidable reply to Grotius’s theory of freedom of the seas came in John Seldon’s 1635 treatise, *The Closed Sea or Two Books Concerning the Rule Over the Sea*, which relied on historical data and State practice to argue that the seas were not common everywhere, and had in fact been appropriated in many cases, especially in waters immediately surrounding nations.³⁹⁵ Even so, in the age of European colonialism marked by

³⁸⁹ *Id.* at § 1531 (a) (4): “[T]he United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction. . . .” *See, e.g.,* Convention on International Trade in Endangered Species of Fauna and Flora (CITES), Mar. 3, 1973, 993 U.N.T.S. 243, reprinted in 12 I.L.M. 1085 (1973)) and V BASIC DOCUMENTS, *supra* note 13, at V.H.10.

³⁹⁰ *See, e.g.,* J. LOUISE MASTRANTONIO & JOHN K. FRANCIS, A STUDENT GUIDE TO TROPICAL FOREST CONSERVATION (Oct. 1997), <http://www.fs.fed.us/global/lzone/student/tropical.htm> (accessed Sept. 1, 2011).

³⁹¹ KARL JACOBY, CRIMES AGAINST NATURE: SQUATTERS, POACHERS, THIEVES AND THE HIDDEN HISTORY OF AMERICAN CONSERVATION 15 (2001).

³⁹² *Id.* at 16.

³⁹³ *Id.* at 17 (noting that state protection of the Adirondacks had dire consequences for the approximately 16,000 people already living there). Mark Dowie chronicles this recurring dynamic—the displacement of indigenous commoners to establish modern-day commons—in his book CONSERVATION REFUGEES: THE HUNDRED-YEAR CONFLICT BETWEEN GLOBAL CONSERVATION AND NATIVE PEOPLES (2009).

³⁹⁴ KEMAL BASLAR, THE CONCEPT OF THE COMMON HERITAGE OF MANKIND IN INTERNATIONAL LAW 30 (1998); *see also* ARTHUR NUSSBAUM, A CONCISE HISTORY OF THE LAW OF NATIONS 103 (1954 rev. ed.).

³⁹⁵ NUSSBAUM, *supra* note 394, at 111; RAM PRAKASH ANAND, ORIGIN AND DEVELOPMENT OF THE LAW OF THE SEA 105 (1982).

conquest and enclosure, common access to the high seas was protected by international law, and remains so in the modern United Nations Convention on the Law of the Sea,³⁹⁶ which recognizes the freedom on the high seas as well as the exclusive rights enjoyed by coastal states in waters immediately offshore.

Antarctica. One of the most unusual and durable global commons involves Antarctica, managed as a cooperative regime of research scientists since the ratification of The Antarctic Treaty in 1959.³⁹⁷ As many as seven nations had asserted plausible territorial claims to the Antarctica land mass. But two major research projects—the International Polar Years and International Geophysical Years—had demonstrated the feasibility of scientific cooperation. The advantages of continuing this cooperation were seen as a highly attractive alternative to potential political or military strife. Too, the potential economic gains to be had from making territorial claims on Antarctica were minimal, which made it easier to forge acceptable treaties. Antarctica is one of the rare global commons that has been highly stable because, we submit, it also has met many important principles of a successful commons: a well-defined user community, clearly delineated and well-recognized boundaries, and moral and political legitimacy for decisions that have constituted the Antarctica commons regime.³⁹⁸

Space. While the iconic photograph of Neil Armstrong and Buzz Aldrin planting an American flag in the lunar Sea of Tranquility in 1969 evokes an image of conquest, colonization, and manifest destiny, the United States never did stake a claim to lunar territory.³⁹⁹ Indeed, such a claim would have violated the 1967 Outer Space Treaty⁴⁰⁰, which declares outer space, the moon, and other celestial bodies to be the “province of all mankind,”⁴⁰¹ and “not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”⁴⁰² However, both States and private actors are vested with the enjoyment and freedom to share the use

³⁹⁶ Dec. 1, 1982, 1833 U.N.T.S. 3, *reprinted in* 21 I.L.M. 1261 (1982)) and V BASIC DOCUMENTS, *supra* note 13, at V.F.22.

³⁹⁷ Dec. 1, 1959, 402 U.N.T.S. 71, 12 U.S.T. 794, T.I.A.S. 4780, *reprinted in* 19 I.L.M. 860 (1980) and V BASIC DOCUMENTS, *supra* note 13, at V.D.1.

³⁹⁸ See, e.g., Christopher C. JOYNER, GOVERNING THE FROZEN COMMONS: THE EFFECTIVENESS AND LEGITIMACY OF THE ANTARCTIC TREATY SYSTEM (1998); see also SUSAN J. BUCK, THE GLOBAL COMMONS: AN INTRODUCTION 45-74 (1998); Juan Barcelo, *The International Legal Regime for Antarctica*, 19 CORNELL INT’L L. J. (1986); Martin Holdgate, *Regulated Development and Conservation of Antarctic Resources*, in THE ANTARCTIC TREATY REGIME 128 (Gillian Triggs ed., 1987); Donald R. Rothwell, *The Antarctic Treaty: 1961–1991 and Beyond*, 14 SYDNEY L. REV. 62 (1992) Karen N. Scott, *Institutional Developments Within the Antarctic Treaty System*, 52 INT’L & COMP. L. Q. 473 (2003).

³⁹⁹ HARLAN CLEVELAND, THE GLOBAL COMMONS: POLICY FOR THE PLANET 5 (1990).

⁴⁰⁰ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 27, 1967, 610 U.N.T.S. 205, 18 U.S.T. 2410, T.I.A.S. No. 6347, *reprinted in* 6 I.L.M. 386 (1967) and V BASIC DOCUMENTS, *supra* note 13, at V.E.21.

⁴⁰¹ *Id.* art. I.

⁴⁰² *Id.* art. II.

of, and exploit, the available resources of space and celestial bodies without discrimination.⁴⁰³ As a result, the commons of space is largely uncontrolled and unregulated, and runs the risk of inviting self-interested actors to irresponsibly degrade, exploit, and overuse the resources of the space environs—a “tragedy of the unmanaged commons.”⁴⁰⁴ The accumulation of debris in heavily utilized orbital regions such as Low Earth Orbit and Geostationary Earth Orbit could cause these regions to become overcrowded. As astronaut Ed Mitchell once noted, “[i]f there were only one gram of debris per cubic kilometer, out to a thousand kilometers from Earth, the average useful life of a satellite orbiting in that space would be no more than seven hours.”⁴⁰⁵ The answer, as space law scholar Professor Shane Chaddha argues, is to impose and enforce “appropriate mechanisms and disincentives controlling entry to, and the exploitation of, the resource.”⁴⁰⁶ Such governance is currently lacking.

This brief overview of commons-based legal regimes shows that commons have been a durable transcultural institution for assuring that people can have direct access to, and use of, natural resources, or that government can act as a formal trustee on behalf of the public interest. The regimes have acted as a kind of counterpoint to the dominant systems of power because, though the structures of State power have varied over the centuries (tribes, monarchs, feudalism, republics), using a coastal region or forest or marshlands as legally recognized commons addresses certain ontological human wants and needs that endure: the need to meet one’s subsistence needs through cooperative uses of shared resources; the expectation of basic fairness and respectful treatment; and the right to a clean, healthy environment. In this sense, the various historical fragments of what may be called “commons law” constitute a legal tradition that can advance human environmental rights.

The history of commons law also reveals a constellation of tensions between power and the Commons. For example, in modern times the State/Market duopoly is threatened by the rise of new commons because the latter are capable of exposing the limited competencies of the State and Market, and “out-compete” one or both of them in meeting people’s needs. A commons may

⁴⁰³ Shane Chaddha, *Hardin Goes to Outer Space*—“*Space Enclosure*,” at 2 (Feb. 8, 2011), also available at <http://ssrn.com/abstract=1757903> (accessed July 26, 2011); see also GYULA GÁL, *SPACE LAW* 200 (trans. I. Móra, 1969) (“It results from the *res omnium communis* character that such stuffs of cosmic origin can be appropriated by the exploiting state without acquiring sovereignty over the given celestial body. Exploitation of the fish of the high seas and the minerals of the sea-bottom rests on the same legal ground.”); GLENN H. REYNOLDS & ROBERT P. MERGES, *OUTER SPACE: PROBLEMS OF LAW AND POLICY* 80 (2d ed., 1997) (“[T]he conclusion may be drawn that States and other natural and juridical persons have the right of free and equal access to space environment Moreover, their rights are also extended to exploration, exploitation, and use.”).

⁴⁰⁴ Shane Chaddha, *A Tragedy of the Space Commons?* (Apr. 8, 2010), <http://ssrn.com/abstract=1586643> (accessed July 26, 2011).

⁴⁰⁵ CLEVELAND, *supra* note 399, at 3; see also H. A. BAKER, *SPACE DEBRIS: LEGAL AND POLICY IMPLICATIONS* 10 (1988).

⁴⁰⁶ Chaddha, *supra* note 403, at 3; see also MANCUR OLSEN, *THE LOGIC OF COLLECTIVE ACTION* 2 (1971) (asserting that if members of a large community rationally seek to maximize their personal welfare, they will not act to achieve their common or group objectives unless there is either coercion to force them to do so, or some separate incentive distinct from the benefits of the group objective).

siphon consumer demand and moral allegiances away from the State/Market system by enabling new types of political self-determination and non-Market self-provisioning. People may be attracted to participate in commons because they may provide greater everyday flexibility, social satisfactions, and local responsiveness than existing, concentrated State or Market bureaucracies. The leaders of State and Market are likely to be displeased by citizens and consumers who “migrate” their energies and allegiances to the Commons lest they diminish industry revenues, economic growth, and taxes.

The rise of the Commons sector may also aggravate tensions between two visions of law: the State and its commitment to formal, court-administered law, and the commoners and their reliance on vernacular practices that are informal, situational, and custom-based. As formal law becomes subject to elaborate “gaming” by giant corporate players, who routinely use lawyers and lobbyists to shape law to serve their purposes, individual citizens are increasingly alienated or excluded from the legal system, making a mockery of the State’s nominal commitment to equality, due process, and the common good. The commons, by contrast, may deliver greater actual benefits to citizens in ways that are more accessible, participatory, transparent, and accountable than State-based governance.

Finally, the Commons and the modern State/Market system may clash because each embodies a different set of ontological and epistemological premises.⁴⁰⁷ The State/Market alliance has its own implicit vision of people as rational, utility-maximizing citizen-consumers who believe in the benefits of technological progress and ever-rising Gross Domestic Product. Its system of formal law rests on a foundation of positivism, behavioralism and administrative regularity, and therefore tends to be perplexed by the very idea of the commons. On the other hand, the State/Market has important roles to play in serving as public trustee of many common assets, in stopping enclosures of the Commons, and in setting general protocols, boundary conditions, and legal rules for new commons to arise. We elaborate on this vision and its complications in Section V.

C. Social Scientists Rediscover the Commons

Despite the long history of the Commons and its manifest significance, modern economics has largely dismissed the Commons as an historical curiosity. Perhaps it was inevitable that as post-World War II Market culture soared to new heights, the Commons would be seen as having little relevance—or, as one scholar put it, as “no more than the institutional debris of societal arrangements that somehow fall outside modernity.”⁴⁰⁸ Two leading introductory economics textbooks—Samuelson & Nordhaus⁴⁰⁹ and Stiglitz & Walsh⁴¹⁰—entirely ignore the commons.

⁴⁰⁷ See, e.g., USKALI MÄKI, *THE ECONOMIC WORLD VIEW: STUDIES IN THE ONTOLOGY OF ECONOMICS* (2001); see also James Quilligan, *The Failed Metaphysics Behind Private Property: Sharing Our Commonhood, Kosmos*, May 4, 2011, <http://www.kosmosjournal.org/kjo2/library/kosmos-articles/failed-metaphysics.shtml> (accessed July 27, 2011); Maeckelbergh, *supra* note 249.

⁴⁰⁸ Arun Agarwal, *Common Resources and Institutional Sustainability*, in NATIONAL RESEARCH COUNCIL, COMMITTEE ON THE HUMAN DIMENSIONS OF GLOBAL CHANGE, *THE DRAMA OF THE COMMONS* 42 (2002).

⁴⁰⁹ PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* (17th ed. 2001).

⁴¹⁰ JOSEPH E. STIGLITZ & CARL E. WALSH, *ECONOMICS* (3d ed. 2002).

Much of the dismissive neglect of the Commons can be traced to an influential 1968 essay that biologist Garrett Hardin published in the journal *Science*.⁴¹¹ *The Tragedy of the Commons*, a parable about the inevitable collapse of any shared resource. If you have a shared pasture upon which many herders can graze their cattle, Hardin wrote, no single herder will have a rational incentive to hold back. And so he will put as many cattle on the physical commons as possible, take as much as he can for himself. The pasture will inevitably be over-exploited and ruined. A “tragedy.”

The tragedy narrative implied that only a regime of private property rights and markets could solve the tragedy of the Commons. If people had private ownership rights, they would be motivated to protect their grazing lands.

But Hardin was not describing a commons. He described a scenario in which there were no boundaries to the grazing land, no rules for managing it, and no community of users. That is not a commons; it is an open-access regime or free-for-all. A commons has boundaries, rules, social norms, and sanctions against free-riders. A commons requires that there be a community willing to act as a steward of a resource. Hardin’s misrepresentation of actual commons stuck in the public mind, however, and became an article of faith thanks to economists and conservative pundits who saw the story as a useful way to affirm their anthropocentric ethics and economic beliefs. So, for the past two generations the Commons has been widely regarded as a failed paradigm.

Happily, contemporary scholarship has done much to rescue the Commons from the memory hole to which it was consigned by mainstream economics. Nobel Laureate Elinor Ostrom of Indiana University is the most prominent academic to rebut Hardin and, over time, rescue the Commons as a governance paradigm of considerable merits. Sometimes working with political scientist Vincent Ostrom, her husband, Elinor Ostrom’s work has concentrated on the institutional systems for governing “common-pool resources” (CPRs)—collective resources over which no one has private property rights or exclusive control, such as fisheries, grazing lands, and groundwater, all of which are certainly vulnerable to a “tragedy of a commons” outcome.

Writing in her path-breaking book, *Governing the Commons*, published in 1990, Professor Ostrom stated the challenge she was addressing:

The central question in this study is how a group of principals who are in an interdependent situation can organize and govern themselves to obtain continuing joint benefits when all face temptations to free-ride, shirk, or otherwise act opportunistically. Parallel questions have to do with the combinations of variables that will (1) increase the initial likelihood of self-organization, (2) enhance the capabilities of individuals to continue self-organized efforts over time, or (3) exceed the capacity of self-organization to solve CPR problems without eternal assistance of some form.⁴¹²

⁴¹¹ Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (Dec. 13, 1968).

⁴¹² OSTROM, *supra* note 20, at 42.

Ostrom's achievement has been to describe how many communities of resource-users can and do develop shared understandings and social norms—and even formal legal rules—that enable them to use the CPRs sustainably over the long term. Some commons, for example—such as the Swiss villagers who manage high mountain meadows in the Alps, and the Spaniards who developed *huerta* irrigation institutions—have flourished for hundreds of years, even in periods of drought or crisis. The success of such commons can be traced to their social authority and administrative capacities to allocate access and use rights to finite resources, among other factors such as responsible rules for stewardship and effective punishments for rule-breakers. *Governing the Commons* has had a far-reaching impact on the American legal academy, particularly in general property theory, environmental and natural resource law, and, since the mid-1990s, intellectual property.⁴¹³

Scholars of CPRs and common property (who now associate their work under the more general term “commons”⁴¹⁴) have developed a formidable literature exploring how common-pool resources can be managed as commons: What property rights in land or water or forests work well in a particular circumstance? What participatory systems and sanctions are needed? What interactions with statutory law and with markets affect the performance of commons? Analyses of these questions have shown how pastoralists in semi-arid regions of Africa, lobstermen in the coastal coves of Maine, communal landholders in Ethiopia, rubber tappers in the Amazon, and fishers in the Philippines, have negotiated cooperative schemes to manage their shared resources in sustainable ways.

In *Governing the Commons*, Ostrom identified seven basic design principles of successful commons that are now regarded as a default framework for discussion, plus an eighth principle applicable to complex commons:

1. ***Clearly defined boundaries.***

Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.

2. ***Congruence between appropriation and provision rules and local conditions.***

Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.

⁴¹³ Carol M. Rose, *Ostrom and the Lawyers: The Impact of Governing the Commons on the American Legal Academy* (Arizona Legal Studies Discussion Paper No. 10-37, October 31, 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1701358 (accessed July 27, 2011).

⁴¹⁴ The study of commons was initially characterized as a study of *common-pool resources*; but in 2003 the International Association for the Study of Common Property changed its name to the International Association for the Study of the Commons. See *Time to Change the IASCP Mission Statement?* (CPR DIGEST 67, Dec. 2003), <http://www.iasc-commons.org/sites/all/Digest/cpr67.pdf> (accessed July 27, 2011).

3. ***Collective-choice arrangements.***

Most individuals affected by the operational rules can participate in modifying the operational rules.

4. ***Monitoring.***

Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.

5. ***Graduated sanctions.***

Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or both.

6. ***Conflict-resolution mechanisms.***

Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.

7. ***Minimal recognition of rights to organize.***

The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.

For CRPs that are parts of larger systems:

8. ***Nested enterprises.***

Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

Each commons has evolved its own particular rules tailored to the specific “physical systems, cultural views of the world, and economic and political relationships that exist in the setting,” Ostrom has noted.⁴¹⁵ Yet despite profound differences among commons, they tend to exhibit many similarities, she has concluded:

Extensive norms have evolved in all of these settings that narrowly define “proper” behavior. Many of these norms make it feasible for individuals to live in close interdependence on many fronts without excessive conflict. Further, a reputation for keeping promises, honest dealings, and reliability in one arena is a valuable asset. Prudent, long-term self-interest reinforces the acceptance of the norms of proper behavior. None of these situations [small-scale commons studied in *Governing the Commons*] involves participants who vary greatly in regard to ownership of assets, skills, knowledge, ethnicity, race or other variables that could strongly divide a group of individuals.⁴¹⁶

⁴¹⁵ Ostrom, *supra* note 20, at 89.

⁴¹⁶ *Id.* at 88-89.

“The most notable similarity of all, Ostrom adds, “is the sheer perseverance manifested in these resources systems and institutions.”⁴¹⁷ She writes: “The resource systems clearly meet the criterion of sustainability [and] of institutional robustness . . . They have endured while others have failed.”⁴¹⁸

Ostrom has studied some CPRs in modern, industrialized settings, such as institutional collaboration in providing police and other municipal services in major American cities;⁴¹⁹ an inter-governmental collaboration to protect Los Angeles groundwater basins from overuse and ruin;⁴²⁰ and “new commons” on the Internet.⁴²¹ Two critical fora for much of this work has been the Ostrom-founded Workshop on Political Theory and Policy Analysis at Indiana University and the International Association for the Study of the Commons (IASC). A large body of transdisciplinary fieldwork and theoretical studies of international scope are now housed at the Workshop-associated Digital Library on the Commons at Indiana University.⁴²² However, while a handful of commons scholars have addressed the challenges posed by global common-pool resources such as the atmosphere, most of the “Bloomington school” scholarship has focused on small, subsistence-based commons in rural areas.

Ostrom, it must be emphasized, does not regard her eight design principles as a strict blueprint for successful commons because many contingent, situational factors affect the performance of commons. Rather, she sees the principles as general guidelines. Other scholars have formulated their own lists for sustainable commons, but these factors tend to overlap with Ostrom’s design principles (implicitly affirming them) while organizing them in different ways. Arun Agarwal writes, “[I]t is reasonable to suppose that the total number of factors that affect successful management of commons is greater than 30, and may be closer to 40.”⁴²³ With this

⁴¹⁷ *Id.* at 89.

⁴¹⁸ *Id.*

⁴¹⁹ Elinor Ostrom & G.P. Whitaker, *Does Local Community Control of Police Make a Difference? Some Preliminary Findings*, 17 AM. J. POL. SCI. 48 (1973).

⁴²⁰ Instead of allowing a race to over-pump scarce water supplies, government at multiple levels collaborated to establish a governance system that remained, in Ostrom’s words, “largely in the public sector without [government] being a central regulator. . . . No one ‘owns’ the basins themselves. The basins are managed by a *polycentric set* of limited-purpose governmental enterprises whose governance includes active participation by private water companies and voluntary producer associations. This system is neither centrally owned nor centrally regulated.” ELINOR Ostrom, *Public Entrepreneurship: A Case Study in Ground Water Basin Management* (dissertation, 1965), at 315-16; <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/3581/eostr001.pdf?sequence=1> (accessed July 27, 2011).

⁴²¹ Charlotte Hess & Elinor Ostrom, *Ideas, Artifacts and Facilities: Information as a Common-Pool Resource*, 66 L. & CONTEMP. PROBS. 111 (Winter/Spring 2003).

⁴²² See <http://dlc.dlib.indiana.edu> (accessed July 27, 2011).

⁴²³ Agarwal, *supra* note 408, at 65. Agarwal was comparing Ostrom’s studies of the Commons with those by E.O. WADE, *VILLAGE REPUBLICS: ECONOMIC CONDITIONS FOR COLLECTIVE ACTION IN SOUTH INDIA* (1988) and J. BALAND AND J. PLATTEAU, *HALTING DEGRADATION OF NATURAL RESOURCES: IS THERE A ROLE FOR RURAL COMMUNITIES* (1996).

caveat, we note the following list of significant factors that condition the management of successful commons:⁴²⁴

The character of the resource determines whether it is finite and depletable, such as a forest or the atmosphere, for example; or whether it is self-replenishing to some degree, such as a fishery; or “limitless” in scale, such as language, knowledge traditions and Internet resources.

The geographic location and scale of a resource will dictate different types of management. A village well requires different sorts of management rules than a regional river or global resource like the oceans.

The experience and participation of commoners matters. Indigenous communities that have centuries-old cultural traditions and practices will know far more about their resource than outsiders. Long-time members of free software networks will be more expert at designing programs and fixing bugs than newcomers.

Historical, cultural and natural conditions can affect the workings of the commons. A nation that has a robust civic culture is more likely to have healthier commons institutions than those where civil society is barely functional.

Reliable institutions that are transparent and accessible to the commoners matter. Some may be State-sanctioned commons institutions that rely upon official law, such as trusts, while others may be informal, self-organized commons (such as subsistence forests or fisheries) that function below the threshold of conventional law.

The state of technology. New technology such as the Internet can facilitate the formation of new commons. But technology can also be a force for artificially restricting access to a shared resource, as it has done with software encryption and content-controls. Much depends upon whether a technology is accessible to commoners and under what terms.

Despite a profusion of important analyses of commons, we hasten to add, a great deal remains unknown or under-developed, both theoretically and empirically, and thus these factors cannot be considered authoritative and complete. As Agarwal explained when assessing the state of commons scholarship in Agarwal noted in 2003: “One significant reason for divergent conclusions of empirical studies of commons is that most of them are based on the case study method [which itself exhibits a] multiplicity of research designs, sampling techniques and data collection methods. . . . It is fair to suggest that existing work has not yet fully developed a theory of what makes for sustainable common-pool resource management.”⁴²⁵ Not surprisingly, there are few generalized conclusions about how to foster what we call the “Commons sector.” Public policy, for its part, barely recognizes the Commons as a governance alternative.

⁴²⁴ This list is derived from SILKE HELFRICH ET AL., THE COMMONS: PROSPERITY BY SHARING (2011), <http://www.boell.de/economysocial/economy/economy-commons-report-10489.html> (accessed July 27, 2011).

⁴²⁵ *Id.* at 45.

The dream of a unifying theory may indeed be a chimera, precisely because the success of commons seems to reside in their highly particularistic governance rules and circumstances. “The differences in the particular rules take into account specific attributes of the related physical systems, cultural views of the world, and economic and political relationships that exist in the setting,” Ostrom writes. “Without different rules, appropriators could not take advantage of the positive features of a local CPR or avoid potential pitfalls that might be encountered in one setting but not others.”⁴²⁶ For mountain commons, the uncertainty may be the timing or location of rainfall. For forest commons, it may be the peculiar habits of wild pigs or the growth cycle of trees. Local commoners are more likely to know such things, and have a greater personal motivation in dealing with them, than remote politicians and bureaucrats.

Even apart from the particularity of commons or the case study method, commons scholarship faces some vexing methodological quandaries. For example, in studying the success of a given commons, it is not necessarily self-evident which factors (such as cultural values, geography, and social practices) are “contextual” and which are primary. Researchers may disagree about which methodologies are most appropriate for gathering and assessing data from the field, and therefore whether comparisons between commons are valid. These sorts of issues make it difficult to formulate broad generalities about commons as they now exist.

However, the empirical academic descriptions of commons as they now exist suggest an array of normative attributes that we believe can and should be incorporated into the governance of ecological commons, from local to global. Implicit in the academic literature on commons is a set of normative values such as inclusive participation, basic fairness, transparent decision-making, and respect for all members of a community. While social scientists may be understandably chary of advocating such principles as a normative template for commons, given the variations in the political economy that enframes most commons, we have no such inhibitions. If the Commons is to serve as a vehicle for improved ecological governance, we must balance the particularities and context of each commons with general principles of ecological sustainability and human rights. In Section V, we elaborate on those principles.

Ostrom, for her part, recognizes that studying commons can be difficult because they tend to be nested within larger systems of economic and political governance, and thus can be affected by many exogenous variables. Her theoretical solution to this problem is *polycentrism*, the idea that nested tiers of governance provide the best way to manage resources. “Each unit [of governance] may exercise considerable independence to make and enforce rules within a circumscribed scope of authority for a specified geographical area,” Ostrom notes⁴²⁷ “In a polycentric system, some units are general-purpose governments, whereas others may be highly specialized. Self-organized resource

⁴²⁶ OSTROM, *supra* note 20, at 89.

⁴²⁷ Interview by Paul Dragos Agilicia with Elinor Ostrom, *Rethinking Governance Systems and Challenging Disciplinary Boundaries*, at 12 (Nov. 7, 2003), *transcript available at* http://mercatus.org/sites/default/files/publication/Rethinking_Institutional_Analysis_-_Interviews_with_Vincent_and_Elinor_Ostrom.pdf (accessed July 27, 2011).

governance systems, in such a system, may be special districts, private associations, or parts of a local government.”⁴²⁸

Polycentric governance helps assure that decision-making can occur at the location closest to the resource and commoners themselves, which tends to enhance the quality of decision-making and its legitimacy. This principle is known as *subsidiarity*, which holds that governance should occur at the lowest, most decentralized level possible in order to be locally adaptive; one-size-fits-all governance structures tend to be less effective, less flexible, and more coercive.

While there are inefficiencies and redundancies in polycentric governance systems— chiefly through overlapping authority, resources, and information—there also is a greater robustness because sub-optimal performance at one level of governance can be compensated for by other tiers of governance. Also, polycentric systems tend to share information more easily and therefore have greater access to local knowledge and better feedback loops. This enhances the quality of decision-making, institutional learning, and system resilience.⁴²⁹

As a system that has evolved in response to resource-users themselves, a polycentric system is open to diverse sources of information and innovation, and thus is less dependent on any single, rigid policy approach or ideology. Polycentrism avoids the dysfunctionality of centralized, top-down administration by “rational experts” who impose overly broad solutions on everyone. Rather, trial-and-error experimentation from the “bottom up” allows the development of rule-sets tailored to the particular resource, community, and local circumstances, and that can evolve in the future.

The commons scholarship pioneered by Professor Ostrom and hundreds of academics has rescued the commons from the misleading “tragedy” myths while building invaluable analytic models for understanding how commons function. In so doing, scholars have helped validate the Commons as a viable, practical way to manage resources sustainably. Needless to say, the complexity embodied by polycentrism makes it extremely difficult to tease out general principles—a point to which we return in Section V. In any case, polycentrism and the academic commons literature have remained largely confined to the academy and a handful of policy professionals; they have not aspired to speak to the lay public or the press, let alone political activists.⁴³⁰

D. The Rise of the Commons Movement Globally

Commons scholars have historically shown little interest in political or economic ideology, or in instigating political change through activist campaigns. It therefore comes as something of a surprise that, in a separate universe beyond the perimeter of traditional commons scholarship, a

⁴²⁸ *Id.* at 12-13

⁴²⁹ ELINOR OSTROM, UNDERSTANDING INSTITUTIONAL DIVERSITY 281-86 (2005).

⁴³⁰ This disinclination to “get political” or to affiliate with the political struggles of commoners may be changing. The 2011 conference of the International Association for the Study of the Commons was co-hosted by an activist-minded group in India, the Foundation for Ecological Security; and Professor Ostrom, since winning her Nobel Prize, has lent her name to a number of efforts seeking political or policy change.

diverse global movement of commoners began to emerge in the late 1990s and early 2000s.⁴³¹ This commons-based advocacy—for indigenous culture, subsistence commoning, urban spaces, free software, open-access scholarly publishing, shareable videos and music, and much else—has been less interested in academic theories of the commons, however potentially apt, than on improvisational innovation in the *building* of practical new models of commoning outside the control of the State-Market.

Some commoners are interested mostly in cheap, non-Market self-provisioning, period, while others see themselves participating in a larger political and cultural struggle to save market capitalism from itself. In any case, the scope, energy, and creativity of the global commons movement suggest the appearance of something quite new and something that is likely to be a powerful force in the future, especially now that the commons-friendly Internet is globally pervasive. The power of this movement stems from the fact that its motivations are political, cultural, and economic all at the same time. And it got a fortuitous boost when, in 2009, Professor Ostrom won a Nobel Prize “for her analysis of economic governance, especially the commons.”

The global commons movement, comprised of direct practitioners engaged in political struggles, have developed some very different ways of understanding the commons than academics. In a sense, their commons projects speak more eloquently than any of their (infrequent) books and treatises. Despite manifest differences among commoners in their commons structures and practices, however, they tend to share a general set of ontological commitments—to participation, openness, social equity, ecological respect, and human rights.

Though not without political implications, commons projects tend to escape ideological capture perhaps because they have a kind of “pre-political” character. As German commons advocate Silke Helfrich notes, one of the great virtues of the commons is that it “draws from the best of all political ideologies.” *Conservatives* like how the commons promotes responsibility; *liberals* are pleased with the focus on equality and basic social entitlement; *libertarians* like the emphasis on individual initiative; and *leftists* like the idea of limiting the scope of the Market. As Helfrich points out, it is important to realize that “the commons is not a discussion about objects, but a discussion about *who we are and how we act*. What decisions are being made about *our* resources?”⁴³² This kind of discussion may not easily conform to established political categories, especially at the local level, but it is very much needed in the most practical sense.

Notwithstanding the trans-ideological appeal of the Commons, commoners tend to be skeptical of the State and the Market if only because commoning itself tends to run athwart the laws enacted by the State/Market regime—e.g., copyright law which makes many types of online sharing problematic, and property and trade law which makes collective management of land and other natural resources difficult. Thus it is not unusual for some commoners to become politicized as they seek to defend their traditional community practices (even if other commoners, such as free

⁴³¹ David Bollier, *A New Politics of the Commons*, 15 RENEWAL No. 4, 10-16 (2007).

⁴³² Quoted in DAVID BOLLIER, THE INTERNATIONAL COMMONS CONFERENCE: AN INTERPRETIVE SUMMARY (Nov. 1-2, 2010), http://www.boell.de/downloads/economysocial/ICC_report--Bollier.pdf (accessed July 28, 2011).

software programmers and other tech commoners, may feel quite “in sync” with Market culture and its values.) Most share a skepticism of the Market fantasies of unlimited growth, perfect control through technology, and faith in “bigger, better, faster” as a mode of transcendence. They generally reject claims that absolute private property rights should prevail and that commercial market outcomes should trump sustainability, equality, fairness, and humane values.

As a strange admixture of centrists, conservatives, hobbyists, libertarians, social democrats, socialists, subsistence peasants, and the apolitical, most commoners eschew the search for a “unified-field theory” of political philosophy. That smacks of ideology and, if nothing else, commoners are focused on “what works” in their unique circumstances. Some commoners function exclusively in local contexts; others are locally oriented but connected to transnational networks; and still others traverse a mix of local, national, regional, and global networks, and have a well-developed commitment to the commons *qua* commons. Theory is seen as seriously lagging behind social practice, goes the thinking, so useful knowledge is better gleaned from vernacular practice than from academics or other experts. While there are perhaps a handful of commons “stars”—free software advocate Richard Stallman, copyright scholar-activist Lawrence Lessig, Indian activist Vandana Shiva, and author Raj Patel come to mind—the movement’s leadership typically tends to be decentralized and diversified, not charismatic and coordinated.

To understand why the Commons is a compelling governance solution, therefore, one must first become familiar with some of the leading types of commons and noteworthy projects that currently exist. In part because commons can be evaluated from so many perspectives (e.g., the specific resource being managed, their scale and geographic location, their governance and legal structures, types of community norms, etc.), there is no canonical or comprehensive taxonomy of them.⁴³³ That said, however, one needs to develop a rough “mental map” of the terrain and see how it differs from the world of “traditional commons” scholarship where it does.⁴³⁴

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⁴³³ One of the earliest and most comprehensive attempts to make systematic sense of the proliferation of “new commons” is commons scholar Charlotte Hess, *Mapping the New Commons* (July 2008), http://papers.ssrn.com/sol3/papers.cfm?Abstract_id=1356835 (accessed July 28, 2011).

⁴³⁴ As Charlotte Hess has noted: “Much of the impetus of new commons today is considerably beyond the academic application of traditional commons analysis to new types of shared resources. The upsurge of new commons literature documents a new way of looking at what is shared or what *should be* shared in the world around us. It focuses on who shares them, how we share them, and how we sustain them for future generations.” *Id.* at 1.

In this spirit, we offer the following suggestive (i.e., not comprehensive) overview of the commons in six broad categories: subsistence commons, indigenous peoples' commons, Internet commons, social/civic commons, businesses embedded in commons, and State-based commons.⁴³⁵

1. Subsistence Commons

These commons, sometimes known as “traditional commons,” revolve around forests, fisheries, water, arable land, and wild game, among many other natural resources. In many cases, these commons have long histories rooted in specific communities and bioregions. Rights of access and other rules tend to be based on informal social customs rather than on formal law or regulatory supervision. So, for example, in the *Zanjera* irrigation communities in the Philippines, landowning farmers and their tenant farmers (who are enabled to acquire land and irrigation water if they are without money) join together to build common irrigation works for land that was previously dry.⁴³⁶ In Mexico, a communal land system known as *ejidos* was the foundation for decentralized, locally controlled peasant and indigenous farming, forestry and other land use—until the NAFTA trade treaty forced its elimination.⁴³⁷

In New Mexico, native Hispanic-Americans continue to manage *acequias* (a community-operated waterway system) as a “bio-cultural” institution for water irrigation, a system begun by their forebears in the early 1600s under Spanish colonization.⁴³⁸ Under the sanction of State Law, *acequias* in New Mexico blend community life, culture, and local politics with stewardship of the scarce waters of the arid region. Community members are expected to participate in the annual cleaning of the water ditches and other shared responsibilities, and allocations of the limited water are made without over-exploiting it, even in times of drought. The *acequias* have been vital to soil and water conservation, aquifer recharge, wildlife and plant habitat preservation, and energy conservation—and stand in stark counterpoint to the insatiable water demands of nearby towns and real estate developers.

⁴³⁵ A single taxonomy of commons is unlikely given that a commons may arise whenever a self-styled community decides that it wishes to manage a resource in a collective manner, with a special regard for equitable access, use, and sustainability. For example, there is a motley clan of surfers at the Banzai Pipeline beach on the North Shore of Oahu, Hawaii, called “The Wolfpak,” the subject of a documentary film, *Bustin’ Down the Door*. The Wolfpak constitutes a commons because it is a social collective that manages usage of a scarce local resource—great surfing waves—that its members cherish and use themselves. Wolfpak members are protective of the waves and each other, and have evolved their own rules for the orderly, fair use of the resource and community stability. According to Matt Higgins, *On North Shore of Oahu, Enforcing Respect for Locals and the Waves*, N.Y. TIMES, Jan. 23, 2009, members of the Wolfpak “determine which waves go to whom, and punish those who breach their code of respect for local residents and the waves.” <http://www.nytimes.com/2009/01/23/sports/othersports/23surfing.html?scp=1&sq=wolfpack&st=cse> (accessed July 28, 2011).

⁴³⁶ See OSTROM, *supra* note 20, at 82-88.

⁴³⁷ See MARÍA TERESA VÁSQUEZ CASTILLO, LAND PRIVATIZATION IN MEXICO: URBANIZATION, FORMATION OF REGION AND GLOBALIZATION IN EJIDOS (2004); THE TRANSFORMATION OF RURAL MEXICO: REFORMING THE EJIDO SECTOR (Wayne A. Cornelius & David Myhre, eds., 1998).

⁴³⁸ See, e.g., SYLVIA RODRIGUEZ, ACEQUIA: WATER SHARING, SANCTITY AND PLACE (2006); STANLEY G. CRAWFORD, MAYORDOMO: CHRONICLE OF AN ACEQUIA IN NORTHERN NEW MEXICO (1988).

In dozens of small villages in India's Andhra Pradesh region, *dalit* women have emancipated themselves from their jobs as bonded laborers on farms by establishing their own seed-sharing commons, rejuvenating poor farm lands near their villages.⁴³⁹ Their march to food sovereignty began with the village sanghams, self-organized voluntary associations through which the women found and then replicated many "lost" millet-based grain seeds that generations of villages had grown before the Green Revolution displaced the seeds. The traditional millet crops are far more ecologically suited to the semi-arid landscape of the region; the biodiverse farming methods that the women have resurrected use dozens of nearly forgotten seeds that yield more reliable harvests and more nutritious food supplies than commercial seeds, often genetically modified and requiring expensive synthetic pesticides and fertilizers. The shift from Market-based monoculture crops to seed-sharing cooperatives and traditional farming has enabled families to become virtually self-sufficient in food.

Subsistence commons may appear small and inconsequential in the bigger scheme of things, but it is important to realize that an estimated two billion people in poor, rural parts of the world depend upon commons of forests, fisheries, and other natural resources for their daily food.⁴⁴⁰ Conventional economists are prone to overlook the importance of subsistence commons because they lie outside the Market, and often do not entail formal property rights or Market exchange. Yet subsistence commons play a vital role in meeting people's basic human needs, and generally do so with a greater attentiveness to long-term ecological sustainability and social equity than conventional markets.

2. *Indigenous Peoples' Commons*

These commons, based on traditional ecological knowledge, vary immensely and cannot be easily categorized because of the enormous variations in landscapes, tribal cosmologies, cultural practices, and so forth. That said, ecologist Fikret Berkes has called traditional ecological knowledge "a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environments."⁴⁴¹ Indigenous commons are arguably some of the "purest" commons because they often have evolved in isolation from dominant, external systems of power over the course of centuries or longer. Thus indigenous peoples generally

⁴³⁹ See Jaideep Hardikar, *Crops of Truth*, THE NEW INTERNATIONALIST, Sept. 24, 2010, <http://www.newint.org/features/2010/09/01/seeds-rural-south-india> (accessed July 28, 2011); Posting of David Bollier, *The Seed-Sharing Solution*, to Bollier.org, <http://bollier.org/seed-sharing-solution> (Jan. 19, 2011); Deccan Development Society, <http://ddsindia.com/www/default.asp> (accessed July 28, 2011).

⁴⁴⁰ Press release for International Association for the Study of Commons, Policy Forum, 12th Biennial conference, Gloucestershire, Cheltenham, England, July 14-18, 2008, <http://resources.glos.ac.uk/news/politicalvoice.cfm> (accessed July 28, 2011). See also Ruth Meinzen-Dick, et al., *Securing the Commons*, CAPRI (CGIAR Systemwide Program on Collective Action and Property Rights), Policy Brief No. 4, May 2006, at 1 ("Over 1.6 billion people live in and actively use the 30% of the global land mass that is forest and close to 1 billion people the 40% of the land mass that is drylands. These areas, although often classified by national law as public lands, are in many places actively managed by their inhabitants, very often through common property arrangements.")

⁴⁴¹ FIKRET BERKES, SACRED ECOLOGY: TRADITIONAL ECOLOGICAL KNOWLEDGE AND RESOURCE MANAGEMENT 8 (1999).

regard the earth as an animate being—“Mother Earth” or “Pachamama” in Latin America—and not as an inert object to be exploited as any individual or group may see fit. Indigenous peoples generally see themselves as having enduring relationships of reciprocity with their local ecosystems that they express and reinforce through rituals that affirm continuity between one’s ancestors, the present generation, and future generations.

“Tribal regulation and stewardship of resources are interwoven with religious teachings, interfamilial covenants, and family place within society,” write Mary Christina Wood and Zachary Welcker.⁴⁴² “Tribal leaders also speak of natural law, which designates them as stewards of plants, animals, water and air. Natural law is premised on the attainment of balance in nature, as practiced through ancient stewardship covenants with Mother Earth. This legal structure has maintained a remarkable rhythm of life for generations.”⁴⁴³ Among indigenous cultures, ecological management is regarded as a *trust* that confers affirmative duties on the community to protect resources for future generations, both as a matter of religious conviction and tribal law.

As suggested by Bolivia’s embrace of “Nature’s rights,” discussed in Section II, indigenous commons implicitly challenge some of the philosophical premises of modernity itself and therefore posit a quite different set of human relationships with nature. As Professor N. Bruce Duthu writes:

The idea of “property” in the Western tradition . . . implies an orientation toward the Market use of resources without special regard for the long-term ecological consequences or the social meanings of nature to people; the price system presumes a basic equivalence among like-priced elements of nature. Societies that have a more direct, subsistence relationship to nature may therefore find property- and Market-based sensibilities alien and even offensive.⁴⁴⁴

This background helps explain why the modern, industrialized nations of the world dismiss out of hand Bolivia’s proposed United Nations declaration to recognize Nature’s rights; it presumes a set of relationships to Earth that secular, industrialized market societies cannot fathom.⁴⁴⁵

Multinational corporations often aspire to own the agro-ecological or ethno-botanical knowledge developed by indigenous peoples over centuries, which has provoked charges of “bio-piracy.”⁴⁴⁶ This has prompted many indigenous peoples to take affirmative steps to develop legally

⁴⁴² Mary Christina Wood & Zachary Welcker, *Tribes as Trustees Again (Part I): The Emerging Tribal Role in the Conservation Trust Movement*, 32 HARV. ENVTL. L. REV. 2 (2008), 385.

⁴⁴³ *Id.*

⁴⁴⁴ N. Bruce Duthu, *The Recognition of Intergenerational Ecological Rights and Duties in Native American Law*, in WESTON & BACH, *supra* note 22, at Appendix A, Background Paper No. 3. Also available at [http://www.vermontlaw.edu/Documents/CLI%20Policy%20Paper/BP_03%20-%20\(Duthu\).pdf](http://www.vermontlaw.edu/Documents/CLI%20Policy%20Paper/BP_03%20-%20(Duthu).pdf) (accessed July 28, 2011).

⁴⁴⁵ On Nature’s rights, see *supra* text accompanying notes 132-172.

⁴⁴⁶ See, e.g., VANDANA SHIVA, PROTECT OR PLUNDER? UNDERSTANDING INTELLECTUAL PROPERTY RIGHTS (2001).

defensible “traditional knowledge (TK) commons” to prevent outsider confiscation of an indigenous community’s traditional knowledge and attendant environmental rights.⁴⁴⁷ Another commons-based strategy to prevent bio-piracy and inappropriate patents is the Traditional Knowledge Digital Library, an Indian database of public-domain medical knowledge of remedies and treatments that can be used to challenge patent applications which seek to privatize traditional knowledge.⁴⁴⁸

3. Internet Commons

As we explored briefly in Section III, the rise of the Internet over the past twenty years has propelled the commons paradigm forward as a functional alternative to Market-based forms of property and resource management in online spaces. In digital commons, enormous value is being created by large numbers of people freely interacting with each other without the hope or expectation of financial rewards. Money and markets do not necessarily drive creative activity and wealth-creation in online contexts. Life on the Internet is demonstrating, in the words of Harvard law professor Yochai Benkler, that “behaviors that were once on the periphery—social motivations, cooperation, friendship, decency—move to the very core of economic life.”⁴⁴⁹ “What we are seeing now is the emergence of more effective collective action practices that are decentralized but do not rely on either the price system or a managerial structure for coordination.”⁴⁵⁰

Benkler’s term for this phenomenon is “commons-based peer production.” By that, he means systems that are collaborative and non-proprietary, and based on “sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other.”⁴⁵¹ There are countless examples of these phenomena,⁴⁵² from the 36,000 citizen-journalists who contribute articles to Ohmynews.org, a major news publication in South Korea; to the millions of socially minded travelers who use the Couchsurfing website to arrange free lodging and hospitality across the world; to the amateur-volunteers who help NASA classify the craters of Mars through online collaboration. The commons paradigm is being enacted by the tens of thousands of people

⁴⁴⁷ ELAN ABRELL ET AL., NATURAL JUSTICE, IMPLEMENTING A TRADITIONAL KNOWLEDGE COMMONS: OPPORTUNITIES AND CHALLENGES (2009), <http://www.naturaljustice.org/images/naturaljustice/implementing%20tkc.pdf> (accessed July 28, 2011).

⁴⁴⁸ See <http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng> (accessed July 28, 2011).

⁴⁴⁹ BENKLER REMARKS AT COMMONS SUMMIT, DUBROVNIK, CROATIA, JUNE 15, 2007.

⁴⁵⁰ *Id.* at 63.

⁴⁵¹ *Id.* at 60.

⁴⁵² A dizzying array of such projects are described in Lawrence Lessig, *Remix: Making Art and Commerce Thrive in the Hybrid Economy* (2008); Clay Shirky, *Here Comes Everybody: The Power of Organizing without Organizations* (2008); Jonathan Zittrain, *The Future of the Internet and How to Stop It* (2008); and Yochai Benkler, *The Wealth of Networks* (2006). More details on Couchsurfing can be found at <http://www.couchsurfing.org>; on NASA Clickworkers, in Benkler, at 69-70; on Wikipedia, in Zittrain, at 127-148; on Creative Commons licenses, at <http://www.creativecommons.org>; on GNU Linux at GNU General Public License at the Free Software Foundation website, <http://www.gnu.org/licenses/gpl.html> (accessed Aug. 31, 2011); and on open access journals, at Directory of Open Access Journals, at <http://www.doaj.org> and Open Access Tracking Project, at http://oad.simmons.edu/oadwiki/OA_tracking_project.

who have contributed more than 19 million entries to Wikipedia in 270 languages by 2011, and by the hundreds of thousands of programmers who produce free software and open source software such as GNU Linux, the highly respected computer operating system. It is part of the daily lives of the millions of Internet users, including scholars and governments, who use Creative Commons licenses to authorize the legal copying, sharing and/or modification of their copyrighted works. At this writing, scientists and other scholars have created 6,948 “open access” journals whose works are freely available in perpetuity, bypassing commercial publishers who charge exorbitant subscription fees and assert strict copyright controls.

It is too complicated to explore the implications of commons-based peer production for the economy and society here. But we do wish to note their importance for ecological governance.

It is important first to clear away the misconception that “natural resource commons” and “digital commons” are utterly separate and distinct. This confusion is understandable because natural resources tend to be depletable and rivalrous; by contrast, the content of digital commons can readily expand because the incremental cost of reproduction of digital files is virtually nil. Notwithstanding this important difference, digital and ecological commons are starting to bleed into each other as Internet platforms become a pervasive reality of modern life. It is now routine for people to use the Internet to self-organize themselves into commons to generate new types of shared ecological knowledge and manage natural resources in more open, participatory, and non-bureaucratic ways.

We call these new regimes *eco-digital commons*. They are exemplified by smart phones, cameras on mobile devices, motion sensors, and GPS systems that, when networked through telephone and Internet systems, enable new forms of participatory information-aggregation that take wiki-style mass-participation to new levels. As described in a 2009 report by the Woodrow Wilson International Center for Scholars on “Participatory Sensing,” citizen-scientists using electronic devices have helped collect environmental data for such events as the Audubon Society’s Christmas Bird Count, World Water Monitoring Day, and the University Corporation for Atmospheric Research’s Project BudBurst.⁴⁵³ In one study, participants took cell-phone photos of plants at the fruiting stage of their life-cycle and then uploaded them to a central website. Large-scale bodies of such citizen-generated information can reveal important information about the state of climate change and other ecological trends.

“Using people’s everyday mobile phones to collect data in a coordinated manner could be applied to scientific studies of various sorts, such as accessing fishermen’s extensive knowledge to identify and locate fish pathologies in the field or documenting the spread of an invasive species.”⁴⁵⁴ The report notes that GPS-equipped mobile phones might also be used to photograph diesel trucks as part of a campaign to understand community exposure to air pollution. The North American

⁴⁵³ See Jeffrey Goldman et al., *Participatory Sensing: A Citizen-Powered Approach to Illuminating the Patterns That Share Our World* (Woodrow Wilson International Center for Scholars, White Paper, May 2009), <http://www.wilsoncenter.org> (accessed Feb. 25, 2011).

⁴⁵⁴ *Id.* at 11.

Butterfly Association invites people to submit counts of butterflies in their locality.⁴⁵⁵ Rarebirds.com is a location-based database of bird sightings that draws upon volunteer submissions.⁴⁵⁶ New types of self-organized digital commons make it possible to create new bodies community knowledge (such as the Traditional Knowledge database mentioned above), raise alerts about polluters,⁴⁵⁷ and advance the standards of ecological stewardship. Types of data that once was too expensive or unreliable to collect may be gathered and applied in conventional policymaking and standards enforcement.

The “open source” ethos recently inspired the System of Rice Intensification (SRI) is a new form of “agroecological innovation.”⁴⁵⁸ Farmers in some forty countries, from Sri Lanka to Cuba to India, are using the Internet to develop higher-yielding, ecologically benign rice farming methods. SRI emerged outside the scientific establishment as a kind of “open source” collaboration to escape the dependency on proprietary seeds and pesticides. A key goal is to achieve “knowledge *swaraj*” (“self-rule” in Hindi).⁴⁵⁹ Over the past twenty years, some 205,000 Indian farmers have committed suicide as a result of intense market pressures and the loss of their traditional farming practices and identities.⁴⁶⁰ In this context, SRI has been a powerful commons-based platform that bypasses regressive Market-based agricultural practices (GMO seeds, chemical fertilizers and pesticides). It has bridged the local and the global, enabling bottom-up, trans-national collaboration to improve rice yields on marginal plots of land around the world.

The power of the eco-digital commons can also be seen in the fledgling open source hardware movement, a diversified set of engineering projects that is applying open source principles to the development of eco-friendly farming machines and tools. One leading advocate for this idea is the Open Source Hardware and Design Alliance, a federation that promotes the user freedoms to copy, share and redistribute innovative ideas.⁴⁶¹ Another leading project, Open Source Ecology,

⁴⁵⁵ See http://naba.org/butter_counts.html (accessed Feb. 25, 2011).

⁴⁵⁶ See <http://www.rarebirds.com> (accessed Feb. 25, 2011).

⁴⁵⁷ Citizen-compiled bodies of pollution data have been made by the Right to Know Network, <http://www.rtknet.org> (accessed July 28, 2011); the Sunlight Foundation, <http://www.sunlightfoundation.com> (accessed July 28, 2011); and the UMass Political Economic Research Institute’s report, “Toxic 100: Top Corporate Polluters in the United States.” <http://www.peri.umass.edu/Toxic-100-Table.265.0.html> (accessed July 28, 2011).

⁴⁵⁸ See, e.g., System Rice Intensification, http://en.wikipedia.org/wiki/System_of_Rice_Intensification (accessed Aug. 29, 2011).

⁴⁵⁹ C. Shambu Prasad, *Knowledge Swaraj, Agriculture and the New Commons: Insights from SRI in India* (paper for panel on “Knowledge Swaraj and Knowledge Commons,” 13th Biennial Conference, International Association for the Study of the Commons, Hyderabad, India, Jan. 11, 2010).

⁴⁶⁰ The Center for Human Rights and Global Justice, NYU Law School estimated in a 2011 report that more than 250,000 Indian farmers had committed suicide over the past 16 years. In 2009, official figures counted 17,368 farmer suicides. CENTER FOR HUMAN RIGHTS AND GLOBAL JUSTICE, EVERY THIRTY MINUTES: FARMER SUICIDES, HUMAN RIGHTS AND THE AGRARIAN CRISIS IN INDIA, www.chrgj.org/publications/docs/every30min.pdf (accessed July 28, 2011).

⁴⁶¹ See <http://www.ohanda.org> (accessed Feb. 25, 2011).

explains the movement's thinking: "By using permaculture and digital fabrication together to provide for basic needs and open source methodology to allow low cost replication of the entire operation, we hope to empower anyone who desires to move beyond the struggle for survival and 'evolve to freedom'."⁴⁶²

By helping people inexpensively copy and manufacture useful equipment, Open Source Ecology aims "to define a new form of social organization where it is possible to create advanced culture, thriving in abundance and largely autonomous, on the scale of a village, not nation or state."⁴⁶³ A signature project is the "Global Village Construction Set"—a set of machines that include a sawmill, pyrolysis oil, solar hearing units, an agricultural micro-combine, a manual well-drilling rig, and many other machines—all of which would be open-source, inexpensive, and locally replicable by design.⁴⁶⁴ One of the projects, the LifeTrac, is a low cost, multipurpose, open source tractor that has modular components, hydraulic quick-couplers, lifetime design, and design-for-disassembly.⁴⁶⁵

Yet another example of digital technologies improving ecological management is the Global Innovation Commons, a massive database archive of energy-saving technologies whose patents have expired, been abandoned or simply have no protection.⁴⁶⁶ The idea behind the project is to let entrepreneurs and national governments query the database on a country-by-country basis to identify useful technologies that are in the public domain. Once identified, these technologies for

⁴⁶² See <http://openfarmtech.org/wiki> (accessed Feb. 25, 2011).

⁴⁶³ As Open Source Ecology explains: "Economy creates culture and culture creates politics. Politics sought are ones of freedom, voluntary contract, and human evolution in harmony with life support systems. Note that resource conflicts and overpopulation are eliminated by design. We are after the creation of new society, one which has learned from the past and moves forward with ancient wisdom and modern technology." http://opensourceecology.org/wiki/Global_Village_Construction_Set (accessed Aug. 3, 2011).

⁴⁶⁴ See Global Village Construction Set on the Open Source Ecology website, http://openfarmtech.org/wiki/Global_Village_Construction_Set (accessed Feb. 25, 2011).

⁴⁶⁵ See LifeTrac website at <http://opensourceecology.org/wiki/LifeTrac> (accessed Aug. 29, 2011).

⁴⁶⁶ David C. Martin, founder of the Global Innovation Commons, points out that a great many patents are simply duplicates of innovations made decades ago. See <http://www.globalinnovationcommons.org/content/about> (accessed Feb. 28, 2011). Patent applications often disguise this fact by using colorful and complicated language, however, and overworked government patent examiners, struggling with limited resources and seeking to avoid legal hassles, often grant new patents that are not truly warranted. The Global Innovation Commons challenges a key rationale for patents—that they are essential in promoting innovation. Patents in fact often serve to *impede* innovative technologies and make them unaffordable—at precisely the time when all countries of the world, rich and poor, need to adopt cutting-edge energy technologies to cut carbon emissions. The World Bank, a partner on this project, has estimated that the technologies in the GIC database could save more than \$2 trillion in potential license fees by enabling countries to choose open, shareable technologies and eschew more expensive proprietary systems. The Global Innovation Commons states: "In the Global Innovation Commons, we have assembled hundreds of thousands of innovations—most in the form of patents—which are either expired, no-longer maintained (meaning that the fees to keep the patents in force have lapsed), disallowed, or unprotected in most, if not all, relevant markets. This means that, as of right now, you can take a step into a world full of possibilities, not roadblocks. You want clean water for China or Sudan—it's in here. You want carbon-free energy—it's in here. You want food production for Asia or South America—it's in here." *Id.*

energy, water and agriculture are prime candidates for being developed at lower costs than patented technologies.

Some may dismiss these eco-digital commons as fringe novelties of marginal significance. We see them as beacons of governance innovation that will increasingly challenge conventional State and Market mechanisms. Despite inevitable resistance, eco-digital commons will surge ahead because, consistent with human rights values, they empower people to take responsibility into their own hands and achieve better, more responsive and flexible solutions.

4. Social & Civic Commons

There are a wide variety of commons that are ingeniously leveraging our social inclinations to cooperate in order to develop new types of self-provisioning. To the extent that conventional markets are less mindful of their ecological impact and more intent on maximizing consumption, social and civic commons provide new means of humane ecological governance. Some are utterly familiar, such as public libraries, parks, and land trusts. However, there is a wave of innovation going on right now, seen in such as examples as community “tool sheds” that let participants share garden tools, and websites that enable the sharing of books (BookMooch) and household items (Freecycle.org).⁴⁶⁷

The international Time Banking movement lets volunteers earn “time credits” for providing services to people, such as lawn mowing or legal advice, which they can then “spend” for other services.⁴⁶⁸ Time Banking has been highly successful in helping elderly and poor people with little money but lots of time, meet basic needs. The systems help people escape from their dependency on markets while building social relationships in a community.

The same applies to blood and organ donation systems, which help people obtain needed blood and organs without the inequities, expense and indignities of treating body parts and plasma as market commodities. A similar ethic animates the Slow Food and Slow Money movements, which are attempting to re-imagine the food supply system and financial markets so that they might become more respectful of personal and community needs, above and beyond the Market. Another growing field of experimentation is trying to establish alternative currencies that can substitute for or complement the “fiat” national or multinational currencies.⁴⁶⁹

⁴⁶⁷ Other examples include collective bicycle programs in such cities as Montreal and London (*see Bicycle Sharing System*, WIKIPEDIA.ORG, http://en.wikipedia.org/wiki/Bicycle_sharing_system (accessed Aug 7, 2011); Car-sharing Businesses Such as Zipcar, <http://www.zipcar.com> (accessed Aug. 7, 2011); the website http://www.Share_Stuff.com (accessed Aug. 7, 2011); and the chronicler of the sharing social ethic, <http://www.Shareable.net> (accessed Aug. 7, 2011). For more examples of community-based sharing, see RACHEL BOTSMAN & ROO ROGERS, *WHAT'S MINE IS YOURS: THE RISE OF COLLABORATIVE CONSUMPTION* (2010).

⁴⁶⁸ Jonathan Rowe & Ralph Nader, *Time Dollars: The New Currency That Enables Americans to Turn Their Hidden Resource—Time—into Personal Security and Community Renewal* (1992), <http://www.timebanks.org> (accessed July 28, 2011).

⁴⁶⁹ Leading examples include Bitcoin, <http://www.bitcoin.org> (accessed July 28, 2011); Flattr, <http://www.flattr.org> (accessed July 28, 2011); Ithaca Hours, <http://www.ithacadhours.info> (accessed July 28, 2011); Metacurrency, <http://www.metacurrency.org> (accessed July 28, 2011); Open Bank Project, http://www.openbank_project.com (accessed July 28, 2011); and WIR Bank, <http://www.wir.ch> (accessed July 28, 2011).

Social and civic commons do not necessarily have direct ecological implications. But they do foster an ethic of community engagement as well as relationships and styles of practice, that help incubate new models of commons- and rights-based ecological governance. A good example is the Solar Commons, a Phoenix-based project that will use municipal rights-of-way for solar panels to generate and sell electricity. The revenues will be collected by the Solar Commons, a nonprofit trust, and used to support affordable housing.⁴⁷⁰

5. *Businesses Embedded in Commons*

It is tempting to try to segregate commons and markets into two entirely different realms. In reality, they often interpenetrate and have mutual dependencies. No market can function without some measure of community stability, culture, and trust; and most commons operate within a larger market and private-property context. In his book, *The Great Transformation*, economist Karl Polanyi showed that, historically, markets were embedded in communities and therefore were subservient to social norms, religious beliefs, and cultural values.⁴⁷¹ It was only in the “Great Transformation” of the 19th Century that markets began to “disembed” themselves from social control and assert their autonomy as the default ordering principle for nature, labor, communities, and culture.

What is happening today (in part because of the Internet) is that communities are reasserting greater sovereignty over the structure and behaviors of conventional markets. They are also creating entirely new types of Market structures that are embedded in communities.⁴⁷² Commons of shared values and practices are becoming “hosting environments” for “socially-embedded” businesses. This trend perhaps best exemplified by local agricultural systems (farmers, distributors, retailers, safety compliance coops) that are bypassing national and global vendors.⁴⁷³ Farmers’ markets, community-supported agriculture (CSAs), the Slow Food movement and local cooperatives are examples of “businesses embedded in commons” (as distinct from national and global businesses whose first loyalties are to capital markets and public investors). Another class of examples are open-source software companies, which depend upon communities of volunteer programmers to produce their software and pioneer new ideas. Hundreds of software vendors such as Red Hat are keenly aware that their business success depends upon respectfully interacting with open-source programming communities (most notably, by respecting the community ethic that code must be legally shareable and modifiable without permission or payment).⁴⁷⁴

⁴⁷⁰ See Solar Commons website at <http://solarcommons.org> (accessed July 28, 2011).

⁴⁷¹ KARL POLANYI, *THE GREAT TRANSFORMATION: THE POLITICAL AND ECONOMIC ORIGINS OF OUR TIME* (1944).

⁴⁷² BOLLIER, *supra* note 229, at ch. 10 (“The New Open Business Models”), at 229-52.

⁴⁷³ See generally STEVE MARTINEZ, *ET AL.*, *LOCAL FOOD SYSTEMS: CONCEPTS, IMPACTS, AND ISSUES* (USDA Economic Research Report No. 97, May, 2010), <http://books.google.com/books?id=wVTjIY75WW8C&lpg=PP1&dq=local%20food&pg=PP1#v=onepage&q&f=true> (accessed Aug. 9, 2011).

⁴⁷⁴ See STEVEN WEBER, *THE SUCCESS OF OPEN SOURCE* (2004); AND CHRISTOPHER M. KELTY, *TWO BITS: THE CULTURAL SIGNIFICANCE OF FREE SOFTWARE* (2008).

The growing power of commoners as drivers of Market activity can be seen in the new websites that enable ordinary people to band together to finance new products. The popular Kickstarter website lets people invest funds in new projects. Spot.us is a vehicle for user-commissioned journalism. Sellaband hosts fan-financed music. “Crowdsourcing” has become a major way for serious research intermediaries like InnoCentive to service corporate research needs, especially in pharmaceuticals, through decentralized, self-selected participation.⁴⁷⁵

M.I.T. Professor Eric von Hippel has written extensively about how communities of users—e.g., cyclists, windsurfers, amateurs of all sorts—are neglected but powerful sources of R&D innovation for businesses.⁴⁷⁶ The idea of center-pivot irrigation sprinklers, Gatorade, the mountain bike, desktop publishing, email and the sports bra were all dreamed up by ordinary people immersed in affinity groups, not by corporate R&D departments. The counter intuitive point is that the Commons is a serious engine of innovation in its own right, often with important Market impact.⁴⁷⁷

With the right enabling structures, commons and markets can be constructively synergistic rather than adversarial. Commoners can readily become co-producers and co-innovators with the Market. But first, markets must decline to enclose the Commons—and commoners must devise the legal frameworks and other systems that give them a shared, protected space for collaboration and generativity.

6. State Trustee Commons

Even though the Commons is generally seen as a self-organized governance regime that is separate from both the State and Market, it makes sense to recognize the *State trustee commons* as a hybrid category of commons. Pursuant to its many constitutional, statutory, and common law commitments, the State often acts as a formal trustee or steward of common-pool resources, from the airwaves and public lands to federally funded research and national parks. Purists may demur, but we prefer to recognize these trustee or steward initiatives as a distinct class of commons while acknowledging their mixed status—part-State, part-Commons. Where the common-pool resource is of large scale or spans major political boundaries—the atmosphere or the oceans, for example—they would seem especially necessary.

It is important to make this distinction to underscore the political stake of commoners in resources under government control. The State has its own sovereign powers, to be sure, but its many alliances with Market-based constituencies have made it an unreliable steward of ecological

⁴⁷⁵ See InnoCentive website at <http://www.innocentive.com> (accessed July 28, 2011).

⁴⁷⁶ See ERIC VON HIPPEL, *DEMOCRATIZING INNOVATION* (2005), <http://web.mit.edu/evhippel/www/democ1.htm> (accessed July 28, 2011); see also C.Y. Baldwin and E.A. von Hippel, *Modeling a Paradigm Shift: From Producer Innovation to User and Collaborative Innovation*, (Working Paper, MIT Sloan School of Management 2009), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502864 (accessed July 28, 2011) (“We conclude that innovation by individual users and also open collaborative innovation increasingly compete with—and may displace—producer innovation in many parts of the economy. We argue that a transition from producer innovation to open single user and open collaborative innovation is desirable in terms of social welfare, and so worthy of support by policymakers.”).

⁴⁷⁷ David Bollier, *The Commons as a Different Engine of Innovation*, The Illahee Lecture, Portland, Oregon, May 11, 2011, <http://www.bollier.org/commons-different-engine-innovation> (accessed July 28, 2011).

and cultural commons alike, as borne out by the historical record. In Section V, we explore how the State can serve as a more responsible trustee for certain collective resources, and how it can use its powers to sanction new types of commons-based governance approaches. Prominent, for example, could be the *State-sanctioned common assets trust*, a delegation of stewardship authority to better manage water, oil revenues, public lands, and Social Security funds for the public benefit. Another could be *State-supervised rentals* in which government agencies oversee auctions or rentals of common assets, such as the right to harvest fish from fisheries, use the airwaves for broadcasting and telephony, use public lands for mining, grazing and timber, and pollute the atmosphere in specified amounts.

Irrespective of category, the strength of the Commons as a governance paradigm receptive to human rights values stems from its commitments to a broader array of operative variables—social, economic, ecological—and to its more complex sense of human capacities. Unlike the neoclassical, liberal economic worldview that sees a universe of “individuals” pursuing “rational self-interest” for material gain as an engine of inexorable “progress,”⁴⁷⁸ the Commons worldview puts forward a much broader, richer ontology of value. Instead of insisting upon narrowly contrived metrics of value (namely price), the Commons matrix enables us to see more subtle and diverse forms of value—value that is ecologically complex; that cannot necessarily be monetized; that is embedded in human relationships and community; and that embraces collective and long term needs. The ontological frame of the Commons is not an arid theoretical issue, but its primary, practical virtue.

We do not wish to leave the impression, however, that commons are self-actualizing or free from the usual problems of administration, politics, technical challenges, and so forth. Our point is that, as a general paradigm for ecological governance, the Commons offers several critical capacities that are sorely missing from the neoliberal State and Market system:

- the ability to *set and enforce sustainable limits* to resource consumption;
- the capacity to uphold the *inalienability of certain resources and values*, so that markets will not over-exploit or abuse them;
- a *quasi-sovereignty of social control* over shared resources so that the community can assert sustainable, equitable terms of access and use of resources; and
- a *receptivity to the right to a clean and healthy environment*, which commoners are inclined to embrace as a way to fulfill the foregoing ecological and related values.

Together these special capacities suggest a practical way to escape the growth imperative of the contemporary economy, an imperative that lies at the core of so many ecological crises. The Commons can help us escape the growth compulsion, writes commons advocate Silke Helfrich,

⁴⁷⁸ Posting of Jonathan Rowe, *The Tragedy of Economics: Market Theory vs. Human Nature*, to Onthecommons.org, Feb. 8, 2009, <http://jonathanrowe.org/the-tragedy-of-economics-market-theory-vs-human-nature> (accessed July 29, 2011); MÄKI, *supra* note 407.

“because all those things that are produced in commons do not have to be made artificially scarce [as the private property system and markets require]. There is no incentive to create artificial scarcity because commons do not produce goods to be exchanged, but rather to foster and maintain social relationships, satisfy needs, and solve problems. Directly.”⁴⁷⁹

In sum, when commons-based alternatives are available, it is easier for individuals to insulate themselves from unregulated markets and their logic of maximal production, consumption, debt, and capital accumulation. They can bypass the Market or establish a more orderly, co-equal transactional relationship with it. They can more readily meet their needs directly while maintaining control over their cultural norms. Access to the commons reduces the social exclusion and material deprivation that characterizes most Market societies. It enhances participation in more open, deliberative settings. It fosters self-determination in meeting one’s needs. All of these are fundamental to the effectuation of human rights.

E. Tensions between Modern State Law and the Commons

While the different logic of the Commons gives it many inherent advantages over existing modes of governance, it also brings with it some deep philosophical tensions with the liberal polity. Many commons embody some very different notions of human existence and relationships (ontology), systems of knowledge (epistemology), and cultural assumptions (worldview) than are assumed by modern liberal society.

For example, Western legal systems tend to give juridical recognition to individuals only (juridical persons as well as natural persons), and chiefly to vouchsafe their private property rights, personal liberties, and commercial interests. The idea of recognizing collective rights for nonmarket interests is alien to the very premises of Western liberal polity and law, which, for the most part, favors the worldview and interests of unregulated markets. One could say, truly, that this is one of the purposes of Western law—the consequence of which, as in any legal system, is to constitute the categories of legitimate thought and adjudication. Not surprisingly, the idea of the Commons is invisible and virtually unthinkable in Western law in the modern era.

An emblematic example in the United States is the Dawes Act of 1887, which made it illegal—or extralegal—for Native Americans to presume to be commoners.⁴⁸⁰ The Act’s prime sponsor, Republican Senator Henry L. Dawes of Massachusetts, believed that life on the reservations made the “Indians” indolent, uninterested in their own advancement, and unfit for citizenship. “To solve the ‘Indian problem,’” writes Lewis Hyde, a commons scholar, “the Dawes Act began the process of breaking up tribal holdings and giving individual Indians deeds to private plots of land. Land would no longer be owned ‘in the entirety’ by a tribe but ‘in severalty’ by

⁴⁷⁹ Posting of Silke Helrich, *The Commons Beyond Growth*, to Commonsblog.wordpress.com, May 23, 2011, available in German at <http://commonsblog.wordpress.com/2011/05/23/commons-jenseits-des-wachstums>, and in English at <http://www.bollier.org/commons-antidote-relentless-growth> (each accessed July 29, 2011). For more on this theme, see WOLFGANG HOESCHELE, *THE ECONOMICS OF ABUNDANCE: A POLITICAL ECONOMY OF FREEDOM, EQUITY AND SUSTAINABILITY* (2009).

⁴⁸⁰ General Allotment Act of 1887, 25 U.S.C. §§ 331–34, 339, 341, 342, 348, 349, 354, 381 (2009). The General Allotment Act is commonly referred to as the Dawes Act.

individuals. Thus [were tribal lands made inalienable and converted into salable commodities, and thus also] did Jefferson's vision of a nation of small farms and yeomen farmers settle, a century later, over the Indian lands, a civilizing enclosure for a once native commons."⁴⁸¹

As a condition of becoming American citizens, the Dawes Act required that Native Americans give up their commons-based way of life and become property-owning individuals. Hyde writes:

A few years before the act was passed, the Supreme Court had ruled that Native Americans could be denied the right to vote because they were not U.S. citizens, a decision which those in favor of assimilation sought to remedy by adding a citizenship provision to the [Dawes] bill. After the process of [land] allotment had been completed, the Act said, "every Indian. . . who has voluntarily taken up...his residence separate and apart from any tribe. . ., and has adopted the habits of civilized life, is hereby declared to be a citizen of the United States. . ."

The law would seem to have embodied a hidden syllogism: all U.S. citizens have private, alienable holdings; Indians accepting allotment will have such holdings; therefore such Indians, living "separate and apart," will be citizens. In this way does one kind of self become a citizen, enfranchised and visible to the law, while others drop out of sight. As if to underscore that point the Dawes Act actually says that when it comes to hiring "Indian police," those who have accepted allotment "shall be preferred." Those who accept allotment are not just recognized by the law, they embody the law.⁴⁸²

As this history shows, modern law itself can be a formidable barrier to those who wish to maintain their commons or establish new ones. Behaving as a commoner is in many respects an affront to "citizenship"—if that citizenship is essentially synonymous with individualism, private ownership, and a commitment to the Market alienability of everything. It is why the State/Market resists demands for indigenous people's rights and recognition of the "rights of nature"; they run counter to the deep logic of liberal political theory and thereby challenge existing configurations of political power and culture.

As a practical matter, the lexical prejudices of modern law can be skirted, and often are. We might add, such evasions are not entirely to be scorned. They are responsible for important forms of collective governance such as public libraries, national parks, and land trusts, all of which exist within a legal system with different constitutive priorities. Indigenous peoples have often won *sui generis* legal regimes for themselves; Native Americans have a qualified sovereignty over tribal territories. Yet attempts to win legal recognition for commoning within the Western legal tradition are irregular and difficult.⁴⁸³ They tend to require ingenious "legal hacks" or anomalous innovations in order to transcend the epistemological premises of the law. The challenge frequently comes

⁴⁸¹ Posting of Lewis Hyde, *Invisible Commoners*, to Onthecommons.org, <http://www.onthecommons.org/invisible-commoners> (July 5, 2007).

⁴⁸² *Id.*

⁴⁸³ *Accord*, Mattei, *supra* note 206.

down to devising serviceable “work-arounds” or exceptions that can protect collective, non-State and non-Market interests without structurally altering the core premises of liberal legal discourse.⁴⁸⁴

In this sense, notwithstanding the venerable historical precedents of commons law detailed earlier in this section, the movement to devise legal protections for the commons can border on being an extra-legal enterprise. The historical legal doctrines recognizing the commons may exist, but they have largely been forgotten (Charter of the Forest),⁴⁸⁵ reinterpreted or ignored (Magna Carta),⁴⁸⁶ deliberately flouted (habeas corpus, torture prohibitions),⁴⁸⁷ limited or overturned (Native American land commons)⁴⁸⁸ or kept in check to suit the economic and cultural priorities of modern, liberal societies (public trust doctrine).⁴⁸⁹

Western legal categories are tenaciously resistant to the idea of the Commons, in part because they are embedded in centuries-old ontological premises that we rarely think about. Descartes, as previously noted, famously separated body from mind and subject from object, formalizing the individual’s separation from nature and community.⁴⁹⁰ In Western law, a person’s desires and motivations—and therefore rights and liberties—are formally assigned to the individual, whose “rationality” and “self-interest” are seen as the animating forces of economic and social

⁴⁸⁴ Exemplary legal work-arounds include the General Public License for software, based on copyright ownership; the Creative Commons licenses for creative works, also based on copyright ownership; and land trusts that create “property on the outside, commons on the inside,” in Professor Carol Rose’s phrase. See Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 144 (1998).

⁴⁸⁵ Historian Peter Linebaugh writes: “Over the great arch of English history some parts of Magna Carta, namely chapter 39, evolved in creative response to events while other parts, such as chapter 7 providing the widow with her reasonable estovers of common, and the entire Charter of the Forest, collected dust among the muniments.” LINEBAUGH, *supra* note 280, at 72.

⁴⁸⁶ “Contemplating the history of Magna Carta seemed to give the [U.S. Supreme] Court courage to make changes of its own: ‘the words of Magana Carta stood for very different things at the time of the separation of the American colonies from what they represented originally....What Magna Carta has become is very different indeed from the immediate objects of the barons of Runnymede’ (*Green v. United States*, 31 March 1958).” LINEBAUGH, *supra* note 280, at 191. Linebaugh also writes: “Following the Palmer raids in 1919]...the liberties of Magna Carta—no torture, habeas corpus, due process of law, trial by jury—and the principles of the Forest Charter—subsistence, no enclosure, neighborhood, travel and reparations—began to disappear.” *Id.*, at 230.

⁴⁸⁷ See, e.g., DAVID COLE, *THE TORTURE MEMOS: RATIONALIZING THE UNTHINKABLE* (2009).

⁴⁸⁸ See, e.g., Wood & Welcker, *supra* note 442; see also S. James Anaya, *In the Supreme Court of the American Indian Nations Lone Wolf, Principal Chief of the Kiowa, Et Al.*, 7 KAN. J. L. & PUB. POL’Y 117, 142 (1997) and N. Bruce Duthu, *Incorporative Discourse in Federal Indian Law: Negotiating Tribal Sovereignty Through the Lens of Native American Literature*, 13 HARV. HUM. RTS. J. 141, 171 (2000).

⁴⁸⁹ See, e.g., Mary Christina Wood, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part 1): Ecological Realism and the Need for A Paradigm Shift*, 39 ENVTL L. 43 (2009); ———, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part 2): Instilling A Fiduciary Obligation in Governance*, 39 ENVTL L. 91 (2009). See also MARY CHRISTINA WOOD, *NATURE’S TRUST: ENVIRONMENTAL LAW FOR A NEW ECOLOGICAL AGE* (forthcoming from Cambridge University Press in 2012).

⁴⁹⁰ See *supra* text preceding note 95.

order.⁴⁹¹ It should come as no surprise that Garrett Hardin's tragedy parable sees individual selfishness as limitless, and cooperation as illogical and unsustainable. In the episteme of modern law, the idea that there might be an integrated, organic community that pre-exists the individual, and that might actually influence individual predilections and desires, makes little sense.⁴⁹² It lies outside the logic of the legal system, which is framed around the sovereign individual. Identity is seen as self-made, not relational and community-based. Context and culture are seen as incidental, not controlling. No wonder modern legal systems have trouble comprehending commons! And no wonder it is difficult to inscribe the enabling legal principles for cooperation within an individualist legal framework. As Professor Ugo Mattei explicates:

Commons, unlike private goods and public goods, are not commodities and cannot be reduced to the language of ownership. They express a qualitative relation. It would be reductive to say that we have a common good: we should rather see to what extent we are the commons, in as much as we are part of an environment, an urban or rural ecosystem. Here, the subject is part of the object. For this reason commons are inseparably related and link individuals, communities and the ecosystem itself.⁴⁹³

The commons poses a challenge to Western law also because, as described in Section II, it is not a creature of State law (except by way of benign tolerance). The inner gyroscope of the Commons has traditionally been its self-generated community values and procedures (which may sometimes be supported by exogenous structures of authority and power). For the most part, the Commons tends to govern itself through what we have called "Vernacular Law" or, in Michael Reisman's term, "microlaw."

These "meta-issues" complicate the regeneration of commons law that can manage ecological resources in the 21st Century. Yet, though these issues counsel for humility in moving

⁴⁹¹ Philosopher Richard Tarnas writes: "It has been said that Descartes and Kant were both inevitable in the development of the modern mind, and I believe this is correct. For it was Descartes who first fully grasped and articulated the experience of the emerging autonomous modern self as being fundamentally distinct and separate from an objective external world that it seeks to understand and master. Descartes 'woke up in a Copernican universe' after Copernicus, humankind was on its own in the universe, its cosmic place irrevocably relativized. Descartes then drew out and expressed in philosophical terms the experiential consequence of that new cosmological context.... For if the human mind was in some sense fundamentally distinct and different from the external world, and if the only reality that the human mind had direct access to was its own experience, then the world apprehended by the mind was ultimately only the mind's interpretation of the world....Everything that this mind could perceive and judge would be to some undefined extent determined by its own character, its own subjective structures. The mind could experience only phenomena, not things-in-themselves; appearances, not an independent reality. In the modern universe, the human mind was on its own." RICHARD TARNAS, *THE PASSION OF THE WESTERN MIND: UNDERSTANDING THE IDEAS THAT HAVE SHAPED OUR WORLD VIEW* 416 (1993).

⁴⁹² This point is well made by Professor Ugo Mattei: "The commons can be described only from a phenomenological and holistic perspective and their understanding is therefore incompatible with the above mentioned reductionism [of the Anglo-American empiricist tradition in economics, political science, sociology, analytical philosophy and the law]. . . . In this respect, commons are an ecological-qualitative category based on inclusion and access, whereas property and State sovereignty are rather economical-qualitative categories based on exclusion (produced scarcity) and violent concentration of power into a few hands." Mattei, *supra* note 206.

⁴⁹³ *Id.*

forward and wariness of theoretical purity or political correctness, they do not prevent commons renewal. When it comes to the Commons, *praxis* trumps State law theory, and human agency and presence must be given its due in the formation of commons-based institutions. Vernacular experimentation yields all sorts of knowledge about commons and commoning that may forever be inscrutable to official or formal law.⁴⁹⁴

Our point with this excursus into the tensions between modern State Law and Vernacular Commons Law is to make the reader self-conscious of the State/Market's principled aversion to the Commons. This aversion cuts deeply, implicating ontology, epistemology, and worldview. Anyone who seeks to forge a new, regenerated body of commons law must grapple with the shortcomings of contemporary language in expressing the dynamics and logic of the Commons and with the power of Market-oriented State Law to render the commons invisible and less able to constitute themselves as recognized legal institutions. The deeply engrained habits of language, perception, culture, and worldview are not easily overcome, but if our natural environment—from local to global—is ever to be fundamentally and enduringly clean, healthy, balanced, and sustainable, it is essential that we confront the general inability of the State/Market to “see” the Commons and Commons Sector and therefore to protect them.

Given this daunting array of challenges, the befuddled skeptic may wonder how we might realistically go about the task of regenerating a commons- and rights-based ecological law system within the framework of modern, liberal society. The short answer is: the Commons always plays the hand that it is dealt. It must find ways of working within “legacy systems” of law designed for different purposes while simultaneously advancing paradigm-shifting social practices that may gestate into a different sort of legal process. Theoretical purity and abstract ideals are ultimately less important than creating practical and protectible platforms upon which commoners can be commoners.⁴⁹⁵

⁴⁹⁴ A good example is the General Public License for software, which made possible the flowering of free software and open source software. The GPL was the product of vernacular experimentation. So, too, with countless small-scale resource commons whose governance systems have evolved through *in situ* innovation over time, not through scholarly theory.

⁴⁹⁵ A good example is the free culture movement's acceptance of copyright law as the philosophical basis for building its Creative Commons licenses that enable sharing in myriad content commons. Some left-wing critics have denounced the acceptance of copyright law, but this alleged sell-out has achieved something that a frontal attack on copyright law never would have achieved—the amassing of a diversified constituency whose everyday practices are grounded in working commons, which represents a significant political/cultural base.

V. Imagining a New Architecture of Law and Policy to Support the Ecological Commons

Having introduced the Commons and explained its promise as a governance template favorable to the rights of nature and human beings, we turn now to the challenge of building an architecture of law and policy that can support it. How might law and policy recognize and support the Commons as a salutary paradigm of ecological governance?

Achieving this goal will require remodeled legal processes for both State-based and vernacular practice. Indeed the two must mutually constitute each other in an iterative upward spiral: State Law and public policy will give recognition and visibility to diverse “tribes” of commoners, and their active commoning will help regenerate the authority and reach of Commons-based law and policy. This conjoining of State Law and vernacular practice is essential if we are to rehabilitate the State as a trustee of common assets at all levels—local, national, regional, global, and the permutations among them.

We believe the basic architecture of law and policy to support commons- and rights-based ecological governance must be developed in three distinct yet interrelated fields:

1. *General internal governance principles and policies* that can guide the development and management of commons;
2. *Macro-principles and policies* that the State/Market can embrace to develop laws, institutions, and procedures friendly to the Commons and “peer governance”; and
3. *Catalytic legal strategies* that commoners (civil society and distinct communities), the State, and international intergovernmental bodies can pursue to validate protect, and support ecological commons thus defined.

Imagining a legal and policy architecture that can support rights-based ecological commons in their many varieties, secure them against enclosure, assure their responsible operation, and unleash their generative stewardship, is of course a universal responsibility of the highest order. However it is structured, an ambitious project that addresses these key issues is imperative if we are to avoid irretrievable harm to Earth’s natural (and social) environment.

We do not presume to set forth, however, a theoretically developed or comprehensive plan for a new multilateral system of governance. If history is any guide, such grand ambitions must be discussed and negotiated inclusively and over time to change minds, institutional commitments, and the course of history. This challenge is all the more pronounced because the current liberal polity is structurally biased (or simply confounded by) proposed laws, policies, and strategies that support ecological commons. Invariably, many proposals will provoke philosophical opposition and thus

require makeshift legal approaches. But as suggested in Section IV, theory must follow practice, and practice must be guided by contingent opportunities.

We therefore take for granted that commons law and policy structures are likely to emerge in irregular, unpredictable ways over time, and for this reason our orientation is more practical and improvisational than theoretical and directive. The best results are likely to emerge from on-the-ground experimentation and political struggles that can “road-test” any proposed legal and policy architecture and then expand its scope and complexity incrementally over time. An empty legal and policy formalism that nominally supports the Commons and the right to environment but fails to engage commoners on these tasks or deliver practical results is of no use to anyone. To be transformative, a new body of commons law and policy must be richly braided with vernacular practice and macro-principles. Also, policies of the State/Market must be changed to advance this process. Astute strategies that can successfully validate, protect, and support clean and healthy ecological commons for all must be devised. This will take time.

At the same time, though it is premature to declare that our ecological governance proposal will lead to a paradigm shift, we believe it has the philosophical coherence and functional heft to stimulate the dialogue that that is needed for a fruitful journey forward. The commons- and rights-based ecological governance paradigm is compelling because it comprises at once a *rich legal tradition* that extends back centuries, an *attractive cultural discourse* that can organize and energize people in personal ways, and a widespread *participatory social practice* that, at this very moment, is producing practical results in projects big and small, local and transnational. For a shift to this paradigm to take place, however, the countless commons that now exist must be seen as parts of a much larger worldview that deserves formal recognition and support by State Law and public policy. Needed is a coherent vision of State Law that can enable diverse commons-based endeavors to see themselves as part of a larger whole and begin collaborating to make it real. State Law, extending to the Commons the types of legal recognition and generous backing that the “free state” and “free market” have enjoyed for generations, could unleash tremendous energy and creativity in safeguarding and improving planetary ecosystems. It also could help to transform the State and Market in many positive ways, reducing the cronyism, corruption, and secrecy that presently mark each.

A. Internal Governance Principles of Commons

The great achievement of Nobel Laureate Elinor Ostrom and her colleagues has been to take wildly heterogeneous commons (generally small-scale ones) and develop structured, intelligent ways to assess how and why they do or do not function well. Professor Ostrom’s eight general design principles, which tend to be present to some significant degree in most successful commons, provide a valuable “beachhead” for understanding commons governance.⁴⁹⁶ Yet another key lesson from the academic literature is that much of the success of a commons depends upon contextual factors that are peculiar to a given resource, culture, political rule, legal polity, geography, or history. Universal principles therefore have limited applicability in “designing” commons.

⁴⁹⁶ See *supra* text accompanying notes 414-15.

In an attempt to deal with such variability among commons, Ostrom developed what is known as the Institutional Analysis and Design (IAD) framework, a standard research methodology for investigating commons regimes as they exist in diverse contexts and in nested, multitiered environments.⁴⁹⁷ The IAD is a *meta-theoretical* research framework for assessing variables in commons across disciplinary boundaries.⁴⁹⁸ It consists of using case studies to develop practice-based taxonomies of management approaches; identifying the most significant variables at play; and ensuring adaptations of the overall framework as new information is learned. Special attention is given to the *interplay* of “biophysical resources,” “community attributes” and the “rules-in-use,” or governance mechanisms, as they play out in “action situations,” or deliberative social spaces. Much of commons literature uses the IAD framework as a methodology to draw larger conclusions about discrete resource commons.

Among the most useful analytic concepts of the IAD framework is its differentiation of commons rule-making in three overlapping stages: (1) *operational rules* that deal with transient, everyday situations within a commons; (2) *collective-choice rules* that involve decisions about how the operational rules may be changed; and (3) *constitutional rules* that address decisions about how the collective-choice rules may be changed. These differentiations help us understand the structural dynamics within which trust, cooperation, and reciprocity are negotiated, and therefore to have a more refined understanding of how to “build and grow” a commons.

In the ensuing pages, we focus mostly on the collective-choice and constitutional rules because, in contrast to the operational rules, they have the more enduring impact on the stability and success of commons governance over time. Our purpose is not to survey the large commons literature or propose definitive rules for each and every type of commons.⁴⁹⁹ It is, rather, to build on, and extrapolate from, the analytic insights of Professor Ostrom and her collaborators to imagine policies and legal principles that could extend *existing* commons, which typically are geophysically small, to commons that might or should be *created* to cope with more complicated national and transnational ecological issues, and even global ones such as the atmosphere or the oceans. These large-scale common-pool resources entail many more complexities than small-scale ones and, furthermore, require grappling with the neoliberal global economy and political struggles to create alternatives to it. State trustee commons, for example, are nominally subject to law but are inherently creatures of politics, and therefore must be approached from a broader perspective than, say, the IAD framework or small-scale commons.

⁴⁹⁷ See Elinor Ostrom, *A Diagnostic Approach for Going Beyond Panaceas*, 104 PROC. NAT'L ACAD. SCI., No. 39, 15181 (2007).

⁴⁹⁸ Elinor Ostrom, *The Institutional Analysis and Development Approach*, in E.T. LOEHMAN & D.M. KILGOURDS., *DESIGNING INSTITUTIONS FOR ENVIRONMENTAL AND RESEARCH MANAGEMENT* 68-90 (1998). For an overview of how the IAD framework has been used, see GRAHAM R. MARSHALL, *ECONOMICS FOR COLLABORATIVE ENVIRONMENTAL MANBAGEMENT: RENEGOTIATING THE COMMONS* (2005).

⁴⁹⁹ However, a useful compendium of research of diverse ecological commons can be found in CAPRI (CGIAR SYSTEMWIDE PROGRAM ON COLLECTIVE ACTION AND PROPERTY RIGHTS). *RESOURCES, RIGHTS AND COOPERATION: A SOURCEBOOK ON PROPERTY RIGHTS AND COLLECTIVE ACTION FOR SUSTAINABLE DEVELOPMENT* (International Food Policy Research Institute, Washington, D.C., 2010).

In our analysis of the internal governance of commons, then, we shift from small-scale commons (a realm of essentially dispassionate scientific observation) to large-scale commons (a realm where creative political struggle and moral commitment also play an important role). In sharp contrast to small-scale commons that have a great number of bounded variables, large-scale commons are driven by a messy, wide-open set of non-rational, situational, historically specific, non-replicable variables—e.g., culture, history, ideology—that are far less amenable to scientific methodologies.

With this proviso in mind, we tender the following key principles which, we believe, do or should influence the internal governance of commons, large and small.

Principles of social cooperation, trust, and problem-solving

Ostrom's eight core design principles, published in 1990, remain the most solid foundation for understanding the internal governance of commons as a general paradigm.⁵⁰⁰ In a book-length study published in 2010, examining the ability of self-organized groups to develop collective solutions to common-pool resource problems at small- to medium-scales, based on evidence derived from multiple methodologies, Poteete, Janssen, and Ostrom offer a more recent summary of the key factors in cooperation.⁵⁰¹ Ostrom summarizes the research as follows:

A large number of variables increase the likelihood that self-organization could be effective in solving collective action problems. Among the most important are the following: (1) reliable information is available about the immediate and long-term costs and benefits of actions; (2) the individuals involved see the resources as important for their own achievements and have a long-term time horizon; (3) gaining a reputation for being a trustworthy reciprocator is important to those involved; (4) individuals can communicate with at least some of the others involved; (5) informal monitoring and sanctioning is feasible and considered appropriate; and (6) social capital and leadership exist, related to previous successes in solving joint problems.

The exact structure that will enhance cooperation cannot be specified at a general level, as many specific features of a particular dilemma affect what has a chance of working. The crucial factor is that a combination of structural features leads many of those affected to trust one another and to be willing to do an agreed-upon action that adds to their own short-term costs because they do see a long-term benefit for themselves and others and they believe that most others are complying.⁵⁰²

Ostrom notes that “extensive empirical research on collective action . . . has repeatedly identified a necessary central core of trust and reciprocity among those involved that is associated with

⁵⁰⁰ See *supra* text accompanying notes 414-15.

⁵⁰¹ AMY R. POTEETE, ET AL., *WORKING TOGETHER: COLLECTIVE ACTION, THE COMMONS AND MULTIPLE METHODS IN PRACTICE* (2010).

⁵⁰² Elinor Ostrom, *A Multi-Scale Approach to Coping with Climate Change and Other Collective Action Problems*, 1 SOLUTIONS No. 2, (Feb. 24, 2010), <http://www.thesolutionsjournal.com/node/565> (accessed Aug. 2, 2011).

successful levels of collective action.”⁵⁰³ In addition, “when participants fear they are being ‘suckers’ for taking costly actions while others enjoy a free ride,⁵⁰⁴” it enhances the need for monitoring to root out deception and fraud.

Human Rights and Nature’s Rights Principles

Both human rights and nature’s rights are implicit in ecological commons governance. If any commons is to cultivate trust and reciprocity and therefore enhance its chances of stable management, its operational, collective, and constitutional rules must be seen as fair and respectful. To this end, ecological commons must embody the values of human dignity as expressed in, for ecumenical example, the Universal Declaration of Human Rights⁵⁰⁵ and nine core international human rights conventions that have evolved from it or from such of them as may be applicable.⁵⁰⁶ The very point of well-managed ecological commons is to ensure that the common-pool resource—be it local (e.g., a prairie or lake), global (e.g., the atmosphere or an ocean), or somewhere in between (e.g., a forest or river)—is kept clean, healthy, ecologically balanced, and sustainable. To the maximum extent possible, each ecological commons should make human rights and nature’s rights an explicit, integral part of its Vernacular Law system. In addition, State Law and public policy should encourage if not formally promote such rights to the maximum extent possible, including the facilitative procedural right of everyone to commons- and rights-based ecological governance capable of them.

Money and Principles for Shared Assets

A factor that often is crucial in the success of a commons is the ability of commoners to limit or ban the monetization of shared assets. Are the fish, timber, or crops produced by a commons alienable for sale in the Market and, if so, on what terms? If people can opt out of their

⁵⁰³ *Id.*

⁵⁰⁴ *Id.*

⁵⁰⁵ *Supra* note 151.

⁵⁰⁶ The Office of the U.N. High Commissioner for Human Rights (OHCHR) identifies the following instruments as the “nine core international human rights instruments” (the second and third of which, together with the 1948 Universal Declaration of Human Rights, *supra* note 151, comprise the “International Bill of Human Rights”): the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), Dec. 21, 1965, 660 U.N.T.S. 195, S Ex C/95-2, III BASIC DOCUMENTS, *supra* note 13, at III.I.1; the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR), *supra* note 283 the 1966 International Covenant on Civil and Political Rights (ICCPR), *supra* note 283; the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), Dec. 18, 1979, 1249 U.N.T.S. 13, *reprinted in* 19 I.L.M. 33 (1980) and III BASIC DOCUMENTS, *supra* note 13, at III.C.12; the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT), Dec. 10, 1984, 1465 U.N.T.S. 85; U.S. Treaty Doc 100-20; *reprinted in* 24 I.L.M. 535 (1984) and III BASIC DOCUMENTS, *supra* note 13, at III.K.2; Convention on the Rights of the Child (CRC), Nov. 20, 1989, 1577 U.N.T.S. 3, *reprinted in* 28 I.L.M. 1448 (1989) and III BASIC DOCUMENTS, *supra* note 13 at III.D.5; International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICRMW), Dec. 18, 1990, G.A. Res. 45/158 (Annex), U.N. GAOR, 45th Sess, Supp No 49, at 262, U.N. Doc A/45/49 (1991), *reprinted in* 30 I.L.M. 1517 (1991) and III BASIC DOCUMENTS, *supra* note 13, at III.O.9; Convention on the Rights of Persons with Disabilities (CRPD), Dec 13, 2006, U.N. Doc. A/61/611, *reprinted in* 46 I.L.M. 443 (2007) and III BASIC DOCUMENTS, *supra* note 13, at III.E.4; International Convention for the Protection of All Persons from Enforced Disappearance (CPED), G.A. Res. 61/177 (Annex), at 408, U.N. GAOR, 61st Sess, Supp No. 49, vol. I, U.N. Doc A/61/49 (Dec. 20, 2006), *reprinted in* Int’l. Hum. Rts. Rep. 582 (2007) and III BASIC DOCUMENTS, *supra* note 13, at III.K.5.

commons obligations by “buying” their way out, or by selling community assets at the expense of the community, it begins to erode the community by casting others as “suckers.” Relationships of trust and reciprocity will flourish best—and make a commons more likely to succeed—when money does not compromise the integrity of relationships and community.

This is not to say that the resources of commons can never be monetized, just that any engagements with markets must be strictly controlled to preserve the sense of fairness that is critical to a commons’ social cohesion.⁵⁰⁷ In traditional commons, commoners have use-rights to a shared resource for subsistence or household purposes, but not for commercial, profit-making purposes. Where commercial gain is permitted, it is generally in ways that are carefully stipulated and for renewable units of a resource, and not exploitation of the capital asset itself; furthermore, the ethic of the Commons generally seeks to prevent whatever money-making that does occur from poisoning community relationships.

The basic point is that commoners should have collective control over the surplus value that they create collectively. Internal relations should not be cash-driven or market-mediated (except with explicit consent of commoners and clear rules for personal use and alienability). Such oversight of the marketization of common resources helps assure that a richer palette of human motivation and community commitment can flourish, and that a beggar-thy-neighbor individualism and profit-seeking does not drive out cooperative impulses. No one wants to be a sucker.

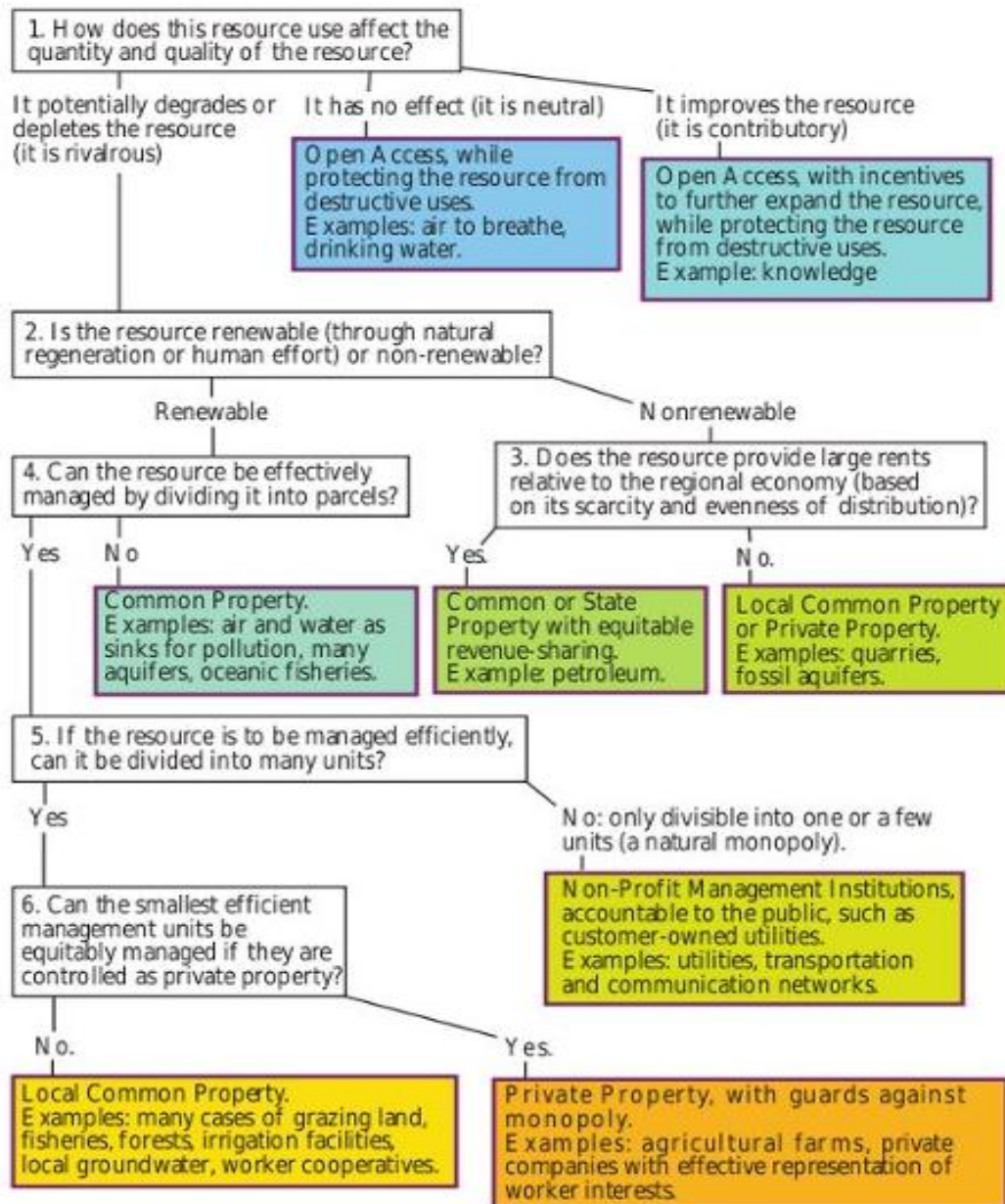
Property Rights Principles

Related to the protocols for handling money in a commons is the proper allocation of property rights. Although we are accustomed to thinking of property rights as unitary bundles of rights that authorize absolute individual dominion over a given resource, in fact property rights can be collectively owned and apply to an indivisible collective resource. They also can be divided into highly specific parcels of access and use rights. An obvious but often-overlooked point is this: *property rights are not self-evident and do not inhere in the resource itself.* They reflect social and political priorities that may or may not be fair, functional or ecologically appropriate. Natural resources have a “life of their own” apart from the property regimes that may be superimposed on them; they are severable from the legal regime used to manage them.

In other words, the structure of collective property rights is important not only in assuring internal fairness within a commons, but also in structuring the ways in which people use—and therefore protect—a natural resource. Choosing the most appropriate configuration of property rights for a given ecological resource helps assure its sustainability.

⁵⁰⁷ For example, free software communities allow programs developed through software commons—and any ancillary services such as consulting—to be sold in the Market, but since the program code is available also for free, community relationships remain more or less intact. For more on the problems and benefits of paying developers in volunteer free and open source projects, see Posting of Benjamin Mako Hill, *Financing Volunteer Free Software Projects*, to Advogato.org, <http://www.advogato.org/article/844.html> (June 10 2011, 11:08pm UTC). Similarly, in ecological commons care must be taken to regulate how the fruits of the commons may be sold in the market lest some participants in the commons over-exploit the resource for personal gain, a form of free-riding that lessens the shared commitment to commoning.

How, then should property rights be structured for shared resources? In the figure below, geographer Wolfgang Hoeschele offers a decision-tree chart for choosing property



Scarcity, Abundance, and the Commons: In order to promote abundance, it is necessary to adapt property rights to each type of resource use. In most cases, this involves some kind of common property. For more details, see Wolfgang Hoeschele, 2010, *The Economics of Abundance*, Gower Publ.

rights regimes that will maximize fairness and minimize the scarcity of a natural resource.⁵⁰⁸ The chart reflects certain commons-friendly criteria in determining what particular property rights regimes and institutional structures should govern different classes of ecological resources. Non-renewable, rivalrous resources such as oil and minerals, for example, are best managed through “Common or state property with equitable revenue sharing,” Hoeschele argues, because such resources produce large rents and have regional economic impact.

A commons-based approach to property rights and institutional control is attractive because it is structurally committed to managing resources in ways that minimize social inequities and ecological harm. A corporation or industry has every incentive to monopolize ownership and control to the detriment of everyone else; they are in the business of creating “chokepoints” (proprietary products, copyright and patent restrictions, market-power advantages, branding dominance, etc.) to create artificial scarcity and discourage competition.⁵⁰⁹ Why, then, should business enterprises, which do not create the minerals and other resources of nature, have privileged, free, or tax-subsidized access to the gifts of nature? If all human beings have a moral entitlement to the Earth’s natural wealth, as even political philosopher John Locke acknowledged, private exploiters of common wealth should pay a fair rent to use it.

Unfortunately, the State has a long history of giving politically connected industries privileged access to our common assets, without fair payment of rents. An important legal strategy for regenerating the Commons is to establish new institutional regimes that charge fair-market rates for the use of the Earth’s resources, where appropriate and ecologically sustainable. Rents should be charged for everything from depletable minerals, the catch from renewable fisheries and forests, and the dumping of pollution into “unowned” spaces such as the oceans and atmosphere. Commons activist Peter Barnes has argued, for example, that polluters should have to pay rent for the right to emit pollutants into the atmosphere. The waste-absorption capacities are finite; and, in any case, who owns the sky? We all do.⁵¹⁰

Control and Subsidiarity Principles

The scale of a commons matters, particularly when its (physical) resources are rooted in a local geography. Unlike markets, in which corporate growth and consolidation are seen as “natural” behaviors, commons have a “natural” tendency to remain discrete and closely tethered to specific resources. After all, at the local level at least, one’s identity and aspirations are bound up with one’s proximity and control of the shared resource, e.g., food, water, or landmarks. Consolidation of

⁵⁰⁸ WOLFGANG HOESCHELE, *THE ECONOMICS OF ABUNDANCE: A POLITICAL ECONOMY OF FREEDOM, EQUITY AND SUSTAINABILITY* 149 (2010). A discussion of the chart is found at pages 150-65. The chart is available also at http://p2pfoundation.net/Choosing_the_Right_Form_of_Common_Property (accessed Aug. 4, 2011).

⁵⁰⁹ HOESCHELE, *supra* note 508, offers an excellent account of how markets artificially create scarcity in their business models as a necessary step in commoditizing resources.

⁵¹⁰ BARNES, *supra* note 218.

shared resources into a single institutional entity can erode personal affiliation and commitment—the “social capital”⁵¹¹—that makes for a well functioning commons.

Thus, commons governance by default should aspire to devolve to the lowest possible level, per principle known as subsidiarity, as explained in Section IV.⁵¹² Besides bolstering the internal robustness of a commons, local control and subsidiarity can have many economic benefits. They can lower the transport costs of trade external to the region (and thus the ecological footprint). They can insulate localities from the predations and fickle swings of global markets. And they can capture the positive externalities of locally cooperating and trading enterprises, and thereby enhance regional resilience. The principle of “comparative advantage” proclaimed by economist David Ricardo is logical only if one ignores the ecological and social externalities associated with a market transaction. Once actual non-market costs are re-integrated into the analysis, and the non-market human satisfactions of localism are counted, the “commons advantage” becomes more evident, if not compelling.

B. Macro-Principles and Policies to Guide the State/Market in Supporting the Commons Sector

The governance of a traditional commons does not depend upon the State/Market except for the latter conceding its existence. But often even that is not forthcoming because the State/Market is predisposed to enclose commons in order to monetize its resources and consolidate State/Market power. Traditional commons therefore remain vulnerable and in need of affirmative protection by State Law and public policy.

For larger-scale commons-pool resources—national, regional, global—the State must play a more active role in establishing and overseeing commons. The State may have an indispensable role to play in instances where a resource cannot be easily divided into parcels (the atmosphere as a waste sink, oceanic fisheries) or where the resource generates large rents relative to the regional economy (e.g., petroleum), as Professor Hoeschele noted. In such cases, it makes sense for the State to intervene and devise appropriate management systems. *State trustee commons*, as we call them, typically manage hard and soft minerals timber, and other natural resources on public lands, national parks and wilderness areas, rivers, lakes and other bodies of water, State-sponsored research, and civil infrastructure, among other things. In such instances, the State claims to act as a trustee on behalf of commoners.

When a commons is administered by the State as trustee for the citizenry, a very different matrix of power, politics, and management arises than is present in traditional commons. There is a deep structural tension between commoners and the State/Market in the administration of collective assets because the State has strong economic incentives to forge deep political alliances with the

⁵¹¹ Although the term “social capital” is widely used by social scientists, it is profoundly misleading about the inner logic and dynamics of social community. Intensive use of “social capital” does not deplete it (as the term “capital” implies). Rather, it enlarges it. In social relationships, the principle of “the more, the merrier” applies, as Professor Carol Rose puts it in her essay on “the comedy of the commons.” See *supra* note 287, at 141. Once we escape the economic lens, it is easier to see these self-reinforcing social dynamics of commons.

⁵¹² See *supra* text accompanying and following note 427.

Market. As a result, the State/Market often chooses to advance its matrix of interests (privatization, commoditization, globalization) despite the adverse consequences for commoners. Any successful regime of commons law must therefore recognize this reality and take aggressive action to ensure that the State/Market does not betray its trust obligations, particularly by colluding with market players in acts of enclosure.

The legal details for assuring the integrity of State trustee commons will naturally vary from one resource-domain to another. By way of general orientation, however, we offer the following eight macro-principles and policies to guide State policy relative to the Commons sector. While we do not presume them to be exhaustive, these tenets do suggest a normative framework that can be applied to all ecological commons and, indeed, the entire Commons sector.

1. ***Commons Governance as a Practical Alternative***

The Commons is a system of governance by which communities of varying sizes and kind assert their commitments to manage shared resources, allocate them fairly and preserve them unimpaired for present and future generations. When the nature of resources so require, the State shall act as a trustee for commoners to protect and maintain their common assets.

2. ***The Earth Belongs to All***

The services and infrastructure of Earth necessary for present and future humans and other beings to be fully biological and social creatures shall be governed as an ecological commons either through State trustees, traditional commons, or acceptable hybrids.

3. ***State Chartering of Commons***

As warranted, governments may authorize responsible parties to manage a commons as deputized trustees when stewardship by identifiable commoners can be shown to serve the general public.

4. ***State Trustee Commons***

The State is sometimes needed to serve as a trustee of certain common pool resources belonging to the commoners (the public or a defined community) of present and future generations, often due to the size, geographic scope, or market value of such resources. To this end, the State must create transparent, accountable management systems, under State Law, to ensure that commons entrusted to it are adequately protected and that beneficiary interests are well-served. Commoners' rights shall not be alienated or diminished except for the purpose of protecting the Commons for future generations.

5. ***The State's Duty to Prevent Enclosures of Commons Resources***

The State has an affirmative duty to prevent enclosures of commons and commons resources because commons serve the needs of basic provisioning, social equity, and ecological protection in ways the State and Market do not or cannot. To this end, it shall formally recognize commons and commons resources and, as warranted and desired by commoners, enable their responsible management through State Law, public policy, and

resources. These duties apply especially to subsistence and indigenous commons that have long preceded States and are vital to people's cultural identities.

6. ***Precautionary and "Polluter Pays" Principles***

Private property owners and commercial activity shall exercise maximum caution not to externalize damage, risks, or costs onto the Commons. The precautionary principle is a useful guide for protecting the Commons for present and future generations in this regard. If harm nonetheless occurs, the polluter—not the commoners—shall pay and remedy the harm. Financial compensation shall not be deemed as an equivalent valuation of the ecological resource, however, because monetary value is not the same nature's value.

7. ***Private Property and Commons***

All systems of private property must affirmatively serve the common good, particularly ecological and human well-being. As warranted by circumstances, therefore, legal limitations on private property may be asserted to ensure the long-term viability of ecological systems. These shifts of private privilege versus collective and ecological need may come through changes in property law, tort law, diverse environmental laws, and/or the power of eminent domain (the "taking" of private property for a public use and subject to payment of just compensation). Ultimately, even private property and markets are subject to the exigencies of the common good.

8. ***The Human Right to Establish and Maintain Ecological Commons Designed for Environmental and Social Well-Being***

Given the recurrent, demonstrated failures of the State and Market to protect the Commons, commoners shall have the fundamental human right, sanctioned by national and international law, to establish and maintain commons to protect their vital ecosystem resources. The State shall facilitate such commons-based management as part of its larger mission to assure ecological sustainability, nourish communities, and enhance human life and dignity.

The foregoing tenets, which reflect fragments of law, policy, and vernacular practice that come down to us from many sources, constitute important guideposts for defining and developing a law of the ecological commons.⁵¹³ They represent a synthesis of key normative principles of governance of ecological commons, which may be operationalized in different ways in different societies, but which nonetheless insist upon the prioritization in all ecological commons of environmental sustainability, human rights, personal participation and responsibility, transparency and accountability, social equity, and intergenerational benefit.

The good news is that the liberal State offers a serviceable if limited framework for pursuing many types of commons-based solutions. But building within this framework requires that we re-

⁵¹³ Most of these tenets were derived from a set of recommendations authored by Carolyn Raffensperger, Burns H. Weston, and David Bollier in *Climate Legacy Initiative, Recommendation No. 1* ("Define and Develop a Law of the Commons for Present and Future Generations") in WESTON & BACH, *supra* note 22 at 63-64.

conceptualize the neoliberal State/Market as a “triarchy”—the *State/Market/Commons*—which realigns authority and provisioning in new ways.⁵¹⁴ The State maintains its commitments to representative governance and management of public property just as private enterprise continues to own capital to produce saleable goods and services in the Market sector. But the State must shift its focus to become a “Partner State”⁵¹⁵ not just of the Market sector but also of the Commons sector, and ensure its health and continuing well-being and thereby the health and well-being of nature and society.

A Partner-State would assume, among other things, the active obligation of helping to promote peer governance in multiple societal contexts (e.g., in ecosystems, cyberspace, education, local communities). As Michel Bauwens, founder of the Peer to Peer Foundation, explains:

Rather than seeing itself as sovereign master, the State must be seen as embedded in relationships, and as in need of respecting these multiple relationships. This is probably best translated by the concept of multistakeholdership. We can probably expect that the nation-state, along with the newly emerging sub- and supraregional structures will continue to exist, but that their policies will be set through a dialogue with stakeholders. The key will be to disembody the state from its primary reliance on the private sector, and to make it beholden to civil society, i.e. the Commons, so that it can act as a center of arbitrage. Despite the recent greater subsumption of the state to private interests (in the neoliberal era)—which of course has never been total since the balance of forces is not based on a complete defeat of the citizenship—many supraregional institutes, and in particular non-state governance institutions such as the standards bodies, but also policy-making at the U.N., already exhibit many features of multistakeholdership.⁵¹⁶

Of course, this vision will require us to revise some deeply held prejudices about the proper role of the State relative to the economy and the environment.

Free-market doctrine holds that the State should refrain from “intervening” in markets. But in actual practice, as we know well, the State is extensively involved in shaping and subsidizing markets, and especially in helping or acquiescing in companies’ enclosures of the Commons. The State provides politically important industries with free and discounted access to public resources, regulatory privileges, research subsidies, tax breaks, special legal immunities and protections, and much else, based on the assumption that greater Market activity will enhance the common good. This is a dubious proposition, of course, when so much of Market growth is systemically *diminishing* the value of non-monetized common wealth such as oceans, the atmosphere, biodiversity, and other

⁵¹⁴ The term “triarchy” is Michel Bauwens’, who expounds on the topic at the P2P Foundation blog, at <http://blog.p2pfoundation.net/the-new-triarchy-the-commons-enterprise-the-State/2010/08/25> (accessed Aug. 4, 2011). Peter Barnes has also been an early expositor of the Commons sector, especially in his *CAPITALISM 3.0: A GUIDE TO RECLAIMING THE COMMONS* (2006).

⁵¹⁵ The term “Partner State” is the creation of Michel Bauwens, *supra* note 514.

⁵¹⁶ Michel Bauwens, *Peer Governance as a Third Mode of Governance*, June 9, 2010, <http://blog.p2pfoundation.net/peer-governance-as-a-third-mode-of-governance/2010/06/09> (accessed Aug. 5, 2011).

ecosystem services, not to mention health, education, employment, and other indicia of human welfare. Indeed, as we proffered in Section II, the State allied with the Market is actually in the business of abridging or shrinking the right to a clean and healthy environment.

The first imperative for the State must be, therefore, to stop colluding with industry in giving away the public's common wealth in its many forms⁵¹⁷ and enter into a new Partner State social contract with civil society (the commoners). The *first principle* for the Partner State must be: Stop enclosures of the commons. Its *second principle* must be: Serve as a conscientious trustee of collective wealth.

Beyond these basic injunctions, the Partner State has many constructive roles to play in the development of a robust Commons sector.⁵¹⁸ It can and must adopt legal principles that explicitly protect common assets and commoning,⁵¹⁹ and it can and must provide legal authorization for establishing new types of commons institutions (although without directly managing them). Centuries ago, the State came up with the innovative idea of chartering corporations as collective enterprises to serve public purposes. Today, using the same rationale of advancing the public good, the State can and should empower the establishment of commons-based institutions: a different sort of institutional vehicle for advancing the public good, environmentally and otherwise.

Of course, supporting the Commons sector would represent a significant shift in focus and process for the bureaucratic State, which is accustomed to issuing regulations and delivering program-based services to passive citizen-consumers (especially in the case of Market failures). Despite its manifest problems and attempts to eradicate it or significantly improve its performance, the bureaucratic State remains entrenched the world over.

It may be countered that bureaucracy, despite its limited competence, is simply an inexorable reality of a large, complex, technological Market society. Yet in a sense that is precisely the point: The planetary ecosystem and human rights can no longer survive government bureaucracy and conventional politics as the means to control Market excesses. The State/Market's propensity to over-exploit resources and commoditize everything can no longer be sustained. It is destroying the Earth's natural systems and shattering human communities.

Is there a serious alternative? We believe there is, and that the Commons is part of it. A hint of a possible direction can be seen in the so-called Blue Labour movement in the United Kingdom, which, dissenting from its liberal allies, wants changes in *how* government attempts to help

⁵¹⁷ See, e.g., BOLLIER, *supra* note 2; RAJ PATEL, *THE VALUE OF NOTHING: HOW TO RESHAPE MARKET SOCIETY AND REDEFINE DEMOCRACY* (2010); JAMES RIDGEWAY, *IT'S ALL FOR SALE: THE CONTROL OF GLOBAL RESOURCES* (2004); JENNIFER WASHBURN, *UNIVERSITY INC.: THE CORPORATE CORRUPTION OF HIGHER EDUCATION* (2005).

⁵¹⁸ Bauwens, *supra* note 514.

⁵¹⁹ To some commoners, "common assets" is an oxymoron because it implies a propertization of resources that is alien to the commons. To the extent that one accepts the idea of "state-based commons," however, or commons that have regulated intercourse with markets, "common assets" is a useful term.

people meet their needs.⁵²⁰ Blue Labour calls for “a new politics of reciprocity, mutuality and solidarity” inspired by economist Karl Polanyi and opposition to neoliberalism and globalization. It actually makes an ontological critique of the State/Market that the Commons is well-equipped to address. Writes Labour Party activist Jon Wilson:

The free market and the centralized, statistically-obsessed State try to subordinate the local peculiarities of life to universal values, whether those values are established by the price mechanism or [even] a language of universal rights. In reality our lives only make sense within concrete contexts and relationships. If the market or centralized State annihilate those local contexts, life literally loses its meaning. . . . The problem with the liberal idea of the identical, relation-less self-determining individual is not that it is bad (although it is that) but that it is a false description of the way human beings act.⁵²¹

Many liberal internationalists scoff at the aspirations of those who seek stronger autonomy, tradition, and meaning through localism; to them, it smacks of conservative parochialism and a regression to tribalism over universal rights. But it is precisely the failure of the liberal State and international bodies to fulfill their stated commitments to universal human (and ecological) rights that has engendered cynicism about State governance, as Wilson’s alert implies. What confidence can be put in a high-minded commitment to principles that in reality are only selectively and irregularly applied—empty commitments that are embraced or disregarded as it suits the passing political convenience?

The deeper skepticism, in any case, is whether a governance system espousing universal rights is capable of making good on those rights in people’s particular local contexts. Does the governance system inspire deep allegiance and meaning? Does it meet people’s everyday needs? “Ideologies, however appealing, cannot shape the whole structure of perceptions and conduct unless they are embedded in daily experiences that confirm them,” the late historian Christopher Lasch once wrote. And the core problem may be that liberal universalism—yoked as it has been to the State/Market and abstractly expressed—is not generally perceived as a personal or local phenomenon. This may help explain why it often has trouble securing the allegiance of “the street,” or at least of religious fundamentalists and racial and ethnic bigots who see political opportunity in pitting “the local” against larger principles of law and justice.

One of the most important challenges facing global governance in the future, we believe, is to devise better ways to integrate the language of universal rights with local, lived experience so that the former is more than an abstraction mouthed by remote politicians, judges, and lawyers. State support for the Commons is an attractive solution because it provides a realistic way to link universal legal principles with lived experience. Indeed, a Commons sector could be the basis for a political culture dedicated to universal human and ecological rights.

⁵²⁰ See *Blue Labour*, at https://secure.wikimedia.org/wikipedia/en/wiki/Blue_Labour (accessed Aug. 5, 2011).

⁵²¹ Jon Wilson, *Blue Labour Realism*, OPENDEMOCRACY.NET (June 14, 2011), <http://www.opendemocracy.net/ourkingdom/jon-wilson/blue-labour-realism> (accessed Aug. 5, 2011).

From this perspective, we also believe the Partner State could work with a fledgling Commons sector to develop a new constellation of self-organized, bottom-up governance systems that can evolve their own locally appropriate expertise, rules, and relationship-driven solutions. The particulars would of course vary from one resource domain to another; from one locality or region to another; and from one State system to another. But at bottom the State would assume a different role, guided by the principles enumerated above. Instead of administering universal programs with little regard for local context or the personal participation of citizens (the liberal approach), or abandoning a government role altogether because it amounts to “paternalism” and the “nanny-state” (the conservative approach), the State would adopt policy structures that invite and support commons-based approaches that enable new forms of participation, responsibility, and self-organized governance. The State would establish, for example, basic governance protocols—legal, technical—that authorize and assist commoners in coming up with management solutions that work best for them and a given resource. The principles of polycentrism and subsidiarity would help assure that the most appropriate tiers of government would take on differential roles, but with the end result that commoners proximate to the resource or problem would have the greatest discretion in fashioning management schemes.⁵²²

Some commons can and will thrive if there is minimal State oversight and they are left essentially alone to do what they do best (though with clear legal authorization from the State and basic performance parameters). No experts or politicians were necessary to instruct indigenous peoples how to devise traditional commons in rural Asia, for example, or farmers to launch Community Supported Agriculture projects, or programmers to design GNU Linux and other breakthrough free/open source software programs. Many commons self-organize on their own, without much or any government supervision. Such commons niches could become much more expansive and robust, however, if they enjoyed a more formal rapprochement or *modus vivendi* with the State. It is important that the State recognize the value-proposition of the Commons as a governance paradigm, and be willing to provide adequate legal recognition and resource-support to it, without overbearing supervision.

A vivid historical model for Partner State support of the Commons can be seen in the role played by the Pentagon’s DARPA (Defense Advanced Research Projects Agency) in creating the Internet—e.g., developing a set of minimalist technical protocols known as TCP/IP⁵²³ which, along with supportive regulation, enabled extremely diverse computer networks to connect with each other on one single system, the Internet. The TCP/IP protocols amount to a governance architecture, a set of shared rules that enable collective action. The beauty of the architecture is that each node of the network is free to self-implement and innovate within the overarching framework of minimalist, collective standards.

⁵²² A likely problem, at least initially, would be the inclination of national governments to displace its obligations onto lower levels of government, without providing adequate legal authority or support, all the while cloaking such action in high-minded reformist rhetoric. Such subterfuges would have to be challenged.

⁵²³ TCP/IP stands for “Transmission Control Protocol/Internet Protocol”; see *Internet Protocol Suite*, WIKIPEDIA.ORG, https://secure.wikimedia.org/wikipedia/en/wiki/Internet_Protocol_Suite (accessed Aug. 5, 2011). Besides TCP/IP, there were important regulatory protocols that facilitated the Internet’s growth, such as telecommunications regulations. See JANET ABBATE, *INVENTING THE INTERNET* (2000).

This might be restated as: *The distributed creativity of commoners is empowered through minimalist design principles at the center*,⁵²⁴ and the model might be called: *State governance in the service of commons formation and stewardship*. This mode contrasts sharply with conventional public administration, which tends to centralize authority, expertise, and decision-making at the expense of local control and capacity.

Commons scholar James B. Quilligan notes that public administration generally seeks “the greatest good for the most people”—a worthy ambition, to be sure. But too often it has resulted in lowest-common-denominator, one-size-fits-all regimes that may not serve anyone well. It focuses on abstract, universal “clients” and has few ways to host participatory co-production and co-management to serve needs defined by the “clients” themselves. Predictably, conventional top-down administration is usually more mindful of its own institutional self-interests (reputation, political support, revenues, etc.) than the on-the-ground needs of the people or ecosystems being served. Ivan Illich spent much of his life documenting dehumanizing and ineffective results when societal problems are defined by institutional “experts” as “needs” that require professional interventions.⁵²⁵ People are objectified and dispossessed, and their human dignity and agency diminished.

The Partner State would strive to advance a different approach. It would seek to enable people to have real—not just nominal—opportunities for interaction, participation, and responsibility to craft solutions appropriate to their self-defined needs. In supporting commons, the Partner State would likely enable decision-making that takes account of people’s actual needs and their neighborhoods, local economies, historical traditions, and natural landscape and climate.⁵²⁶ Writes Quilligan: “[W]hen consumers are co-producers of the goods and services they receive and organize, their practical and applied knowledge are embodied directly in their commoning. As co-producers, the motivations, knowledge, and skills of resource users become part of the production praxis, leading to new ways of interacting and coordinating social and economic life.”⁵²⁷

⁵²⁴ This same design concept was also responsible for the World Wide Web. The hypertext transfer protocol (HTTP) invented by Tim Berners-Lee established a shared governance protocol for Web communication. This in turn unleashed an explosion of self-organized digital commons (as well as business models “built atop” this commons-based technical and social infrastructure). Critically, the “policy protocols” were as simple and limited as possible. To be sure, supplementary laws have been needed for privacy, security, and so forth, but the basic design rules enable countless self-regulating commons to arise on a new platform, the Web.

⁵²⁵ See IVAN ILLICH, *DESCHOOLING SOCIETY* (1971); *TOOLS FOR CONVIVIALITY* (1973); *MEDICAL NEMESIS* (1982).

⁵²⁶ Trent Schroyer puts it well: “In so far as the actual forms of material provisioning vary, so the substantive rationality of specific orders of life differ. The ideal and material are always unified in so far as people meet their needs within a specific environmental context and to which they are oriented by their culturally acquired competences and stocks of knowledge, and are part of a human group that has a shared concept of the good life. Meeting their substantively defined ‘needs’ requires solutions of specific technical problems of means, not problems defined exclusively in terms of price or the maximizing of economic goals. . . . Application of formal economizing principles to non-market oriented life orders is economic in that it produces knowledge that is coercive to indigenous practices in so far as it disvalues and displaces social solidarities and embedded knowledge.” TRENT SCHROYER, *supra* note 31, at 33-34.

⁵²⁷ James B. Quilligan, *Social Charters: Praxis of the Commons* (unpublished essay, on file with the authors).

Additionally, the Partner State could feasibly advance “biophilic design” or “ecological design,” a holistic, place-based approach in technology, production and usage that emulates natural processes.⁵²⁸ Such approaches are not incompatible with market activity, but they do imply a rejection of centralized provisioning of technology and infrastructure, which tend to be relatively more brittle, costly and unreliable. Industrialized models of provisioning seek to consolidate and streamline production and distribution, all in the name of efficiency, whereas ecological commons with biophilic design seek to fortify natural diversity and local stability. What neoliberal economics regards as inefficient and redundant in ecological commons, commoners regard as essential to resilience, robustness, and durability.

To the outdated 20th Century mind, schooled in traditional, top-down bureaucratic control, decentralized commons are counter-intuitive at best and incomprehensible at worst. Commons do not conform to principles of mechanistic, “rational” order and do not exhibit linear causality. They are subject to too many incalculable variables, and in ways that blithely transgress established political boundaries (local, national, regional, global). Yet successful commons are actually more stable, resilient, and self-healing than command-and-control systems precisely because they are nested within a dynamic, living ecosystem of players. They enjoy an “invisible means of support” whose subtleties and time-horizons are not evident to the positivist, instrumentalist mind. Ecological commons are also more stable because they are rooted in familiar local circumstances, and therefore are more insulated from the vagaries and manipulations of global markets, whose chief motive is not long-term stewardship, but monetization of the local resource. The local embeddedness of commoners give them a sophisticated knowledge of native resources and context that often is invisible to scientists, companies, and public agencies accustomed to thinking in abstract, universal terms.

The Partner State has a keen incentive to support Commons governance. With many more richly nuanced, self-correcting feedback loops than markets, commons are more capable of rapid, self-healing action. As we noted in Section III, markets are designed to over-rely on price as an exclusive indicator of value and ignore externalities as much as possible (lest they be forced to internalize those costs to the detriment of their bottom lines). Because they tend to be committed to a fuller spectrum of (non-monetized) value and because many are local, commons are more willing and able, by contrast, to internalize costs that markets typically try to displace onto nature and future generations. Their cultural commitments are able to guide and stabilize resource management; and their rich histories, traditions, and ethical norms are valuable sources of moral guidance, wisdom, and flexibility, all on a decentralized scale. Large-scale commons will have different social dynamics than smaller ones, of course, but they can advance collective interests and

⁵²⁸ See, e.g., JANINE M. BENYAS, *BIOMIMICRY: INNOVATION INSPIRED BY NATURE* (2002); JOHN H. CLIPPINGER, *THE BIOLOGY OF BUSINESS: DECODING THE NATURAL LAWS OF ENTERPRISE* (1999); IAN MCHARG, *DESIGN WITH NATURE* (1969); DONELLA H. MEADOWS, *THINKING IN SYSTEMS: A PRIMER* (2008); DAVID ORR, *THE NATURE OF DESIGN: ECOLOGY, CULTURE AND HUMAN INTENTION* (2004); NIKOS A. SALINGAROS, *TWELVE LECTURES ON ARCHITECTURE: ALGORITHMIC SUSTAINABLE DESIGN* (2011); SIM VAN DER RYN & STUART COWAN, *ECOLOGICAL DESIGN* (1996).

perform other functions familiar to commons such as subsistence support, reductions in inequality, and social cohesion.⁵²⁹

The social/moral gyroscope of traditional commons is most evident among indigenous peoples, who tightly integrate governance, culture and ecosystem needs. Such governance is able to express and enforce an ethic of “enough,” unlike the market ethic which presumes (and celebrates) limitless appetites that are never satiated—the “hungry ghost” phenomenon.⁵³⁰ The Partner State may see the technocratic virtues of relying upon commons, but it may not appreciate that its support of commons could also help address, in piecemeal, project-driven ways, some of the deeper pathologies of market culture and modernity. Unlike legislatures and bureaucracies, for example, properly constituted commons are more capable of declaring certain resources to be off-limits to the market or usable only under controlled, stipulated terms. Instead of making social reconstruction and local self-determination dependent upon market growth (no growth, no social well-being), the Commons integrates these social goals into the very process of commoning. Examples include community forests, regional water supplies, local food systems, and coastal fisheries. The establishment of commons does not eliminate political maneuvering, competition, and anti-social behaviors, but it does create institutional and social frameworks that can contain such energies and channel them in more constructive ways than, say, laissez-faire markets or State/Market alliances.

In a world with a flourishing Commons sector, the State’s role changes. As Michel Bauwens puts it:

On the one hand, market competition will be balanced by co-operation, the invisible hand will be combined with a visible handshake. On the other hand, the state is no longer the sovereign authority. It becomes just one participant among others in the pluralistic guidance system and contributes its own distinctive resources to the negotiation process. As the range of networks, partnerships, and other models of economic and political governance expands, official apparatuses remain at best first among equals. The state’s involvement would become less hierarchical, less centralized, and less directive in character. The exchange of information and moral suasion become key sources of legitimation and the state’s influence depends as much on its role as a prime source and mediator of collective intelligence as on its command over economic resources or legitimate coercion.⁵³¹

⁵²⁹ Two such large-scale commons in the United States are the Alaska Permanent Fund and U.S. Social Security system.

⁵³⁰ Christopher Alexander’s classic work on “pattern languages” in architecture is a contemporary example of how about profound forms of order—esthetic, spiritual, cultural, functional—that have manifested themselves over time through cooperative experimentation and reflection. See CHRISTOPHER ALEXANDER, SARA ISHIKAWA & MURRAY SILVERSTEIN, *A PATTERN LANGUAGE: TOWNS, BUILDINGS, CONSTRUCTION* (1997, 25th printing). The essential point is that these other values must be integrated into the governance and design of a system as a way to surmount the commodity fetishism and market values that otherwise prevail.

⁵³¹ Michel Bauwens, *Peer Governance as a Third Mode of Governance*, June 9, 2010 (drawing upon peer governance scholar Bob Jessop), <http://blog.p2pfoundation.net/peer-governance-as-a-third-mode-of-governance/2010/06/09> (accessed Aug. 5, 2011).

Moving from a world dominated by the State/Market to one of the Partner State and peer governance would entail a considerable transformation, of course. Some catalytic legal strategies are therefore necessary to help propel this effort—the focus of our concluding subsection.

C. Catalytic Legal Strategies

So how might we institute (consistent with the principles and policies enumerated above for internal commons governance and external State guidance) catalytic strategies of law and policy that could advance commons projects as a matter of enforceable State Law?

State Law alone is not enough to make a commons successful, of course, but in our largely State-centric world order, its authorization is usually necessary for any projects that have national or transnational impact. If there is to be a viable Commons sector that can challenge the excesses of the State/Market and press for sane ecological practices, State Law must somehow find a *modus vivendi* with commoners (i.e., civil society) and their Vernacular Law systems.

Let us start by frankly acknowledging that constructing legal frameworks for protecting the Commons as commons is mostly uncharted territory. While there are any number of State-administered programs that serve the public interest, few if any recognize the Commons as a distinct governance paradigm and value-proposition. Any rights that may exist are attached to citizens as individuals (who, in a well-functioning democracy, have the primary right to petition their government); they are not rights *guaranteed to commoners as such* to exercise some meaningful measure of direct responsibility and control over shared, defined resources.

Our purpose in urging greater delegation and devolution of State governance to commons—illustrative of the Partner State relationship—is to empower cooperating individuals to participate in the governance of shared ecological resources *as a matter of law*. By authorizing diverse forms of distributed (i.e., decentralized and quasi-autonomous) commons working at numerous levels and sometimes working in collaboration with the State, the State can “provide for the common welfare” in ways that neither the State nor the Market working alone can. By carving out legal frameworks that provide recognized “open spaces” for commons governance, the State can leverage the energies and innovation of commoners to address ecological needs. A flourishing Commons sector can also temper the State’s broad delegations of authority via corporate chartering that has resulted in so much environmental abuse (among other anti-social behaviors).⁵³²

Of course, a significant challenge—perhaps *the* most significant challenge—is the liberal polity’s indifference or hostility to most collectives (corporations excepted). This means that commoners must use ingenious innovations to make their commons legally cognizable and protected. For this reason, our methodology in proposing policy structures that can affirmatively support the formation and maintenance of commons sensitive to ecological and human rights has been to build on concrete projects and precedents that are based on “real world” experience.

⁵³² See Program on Corporations, Law and Democracy (POCLAD), <http://www.poclad.org> (accessed Aug. 6, 2011). On the history of corporate chartering, see RALPH NADER ET AL., *TAMING THE GIANT CORPORATION: HOW THE LARGEST CORPORATIONS CONTROL OUR LIVES* (1976).

The legal strategies described below are drawn from a number of exemplary commons models and supportive bodies of existing law. Since legal regimes vary immensely around the world, however, our proposals should be understood as general approaches that obviously will require modification and refinement for any given jurisdiction. We start first with commons that entail minimal entanglement with the State and move on to ones that have greater state involvement, concluding with State trustee commons, State rentals of commons, and the daunting challenges of establishing new sorts of multilateral commons institutions for the atmosphere, oceans, and other global commons.

1. *Vernacular-Law Commons*

This is the classic, default way for a commons to operate: a collective asserts its community rules and norms in its management of resources, and sanctions those who may violate them. This is a traditional and often-effective form of Vernacular Law, as our notice of “micro-law” and other variants has shown.⁵³³ Peer sentiment, pressure, and sanctions can define and stabilize a community and unite its members in working together to protect the resources of a commons. This is how, indeed, most subsistence commons have functioned over time, without exogenous institutional “back up” by the State or civil-society institutions. Such commons can be self-policing and stable without the kind of external authority that Hobbes erroneously theorized was essential to restrain barbarism in a “state of nature.”⁵³⁴

Contemporary examples of using peer sentiment to encourage cooperation abound. A good example is the use of peer norms by *electric utilities* to incentivize and shame rate-payers into reducing their usage of electricity and gas. A 2008 study showed that utility customers are more likely to reduce their consumption when they are informed about the actual conservation habits of the majority of their neighbors than when they are being exhorted to conserve.⁵³⁵ In a completely different arena, the *Open Knowledge Foundation* in the U.K. has developed the Panton Principles, a series of public criteria for assessing whether scientific data is legally “open” and shareable. Institutions that meet the designated criteria can legally claim adherence to the Panton Principles and its halo of social esteem.⁵³⁶

⁵³³ See *supra* Section III.B.

⁵³⁴ An external civil authority may be necessary to help *scale* the size of social cooperation in a commons but not necessarily, as peer-based cooperation on the Internet demonstrates. In any case, as archeologists and neuro-scientists have shown, the cooperative impulse appears to precede the rise of civil institutions and law.

⁵³⁵ Jessica M. Nolan et al, *Normative Social Influence Is Underdetected*, 34 PERSONALITY AND SOCIAL PSYCHOL. BULL., No. 7, at 913 (July 2008). Using such finding, an electricity and gas provider in the Northeast United States National Grid has expanded its program to inform homeowners on their monthly statements how their energy usage compares to their neighbors. See Jim Witkin, *Utilities Finding Peer Pressure a Powerful Motivator*, N.Y. TIMES, Feb. 22, 2010, <http://green.blogs.nytimes.com/2010/02/22/utilities-finding-peer-pressure-a-powerful-motivator/> (accessed Aug. 2, 2011).

⁵³⁶ See Panton Principles website at <http://pantonprinciples.org> (accessed Aug. 6, 2011). See also Open Data Commons website at <http://www.opendatacommons.org/guide> (accessed Aug. 6, 2011).

The point is that social norms can be a very effective and efficient way of encouraging positive behavior and cooperation in ways that precede or complement formal legal requirements. Indeed, the rules of social etiquette and State Law itself would not work at all if they did not comport with the basic sentiments of Vernacular Law. But as a voluntary enterprise constrained only by social approval or opprobrium, community norms are also limited instruments of enforcement. They may or may not be adequate to protect an ecological commons.

2. Develop “Private-law Work-arounds”

Devising ingenious adaptations of private contract and property law is a potentially fruitful way to protect commons. The basic idea is to use conventional bodies of law serving private property interests, but by inverting their purposes to serve collective rather than individual interests. The most famous example may be the *General Public License*, or GPL, which is a software license devised by Richard Stallman and the Free Software Foundation in 1986 to ensure that any code contributed to a software commons cannot be legally privatized and must remain always legally free to modify, copy, and share.⁵³⁷ Copyright owners can choose to attach the GPL to their software to guarantee that the code and any subsequent modifications of it will be forever free for anyone to use. The GPL was a seminal legal innovation in helping to establish commons for software code.

Drawing inspiration from the GPL is *Creative Commons*, a nonprofit organization that devised a series of free, standardized public licenses that enable copyright holders to ensure that their works may be copied, modified, and shared, as stipulated by six basic licenses.⁵³⁸ Users affix the licenses to their copyrighted works, whether they be text, music, video, or any other content, and in so doing make their work legally capable of being shared and re-used in online digital commons.

Essentially, both the GPL and CC licenses turn copyright law on its head. The GPL has enabled the rise of GNU Linux, the popular computer operating system, and literally thousands of free and open source software programs, because the GPL assures volunteer-programmers that their work will not be privately appropriated but will remain in the Commons instead. Similarly, the CC licenses enable creative works to escape automatic and strict copyright protection (which, for works created today, would be locked up until approximately the year 2152) and instead make the works shareable on stipulated terms. These copyright-based licenses have been critical to the formation of commons of digital content, which are now a significant productive and cultural force on the Internet. More than seventy nations have adapted the CC licenses to their legal jurisdictions to date, and an estimated 400 million online artifacts are now shareable under CC licenses.⁵³⁹

The GPL and CC licenses are not special cases. Both have been emulated by other creative sectors. Richard Jefferson of *CAMBIA*, a nonprofit research institute in Australia dedicated to “open source biology,” has created an open platform for the sharing of biological research by

⁵³⁷ See GNU General Public License at the Free Software Foundation website, <http://www.gnu.org/licenses/gpl.html> (accessed Aug. 6, 2011); see also CHOPRA & DEXTER, *supra* note 250; ANDREW M. ST. LAURENT, UNDERSTANDING OPEN SOURCE & FREE SOFTWARE LICENSING (2004).

⁵³⁸ For more on the licenses, see <http://creativecommons.org/licenses> (accessed Aug. 6, 2006).

⁵³⁹ See CREATIVE COMMONS, THE POWER OF OPEN (2011), <http://thepowerofopen.org> (accessed Aug. 6, 2011).

creating shareable research tools (patented and then given open licenses) to assure that any research produced by using the tools will be available to all.⁵⁴⁰ *Science Commons*, a project started by Creative Commons, has created a private-law innovation, CC0 (CC Zero), which creates legal and technical protocols for the scientific community to develop its own reputation-based system for sharing data.⁵⁴¹

These digital tools for sharing are significant for ecological commons for two reasons. First, digital networking infrastructures are increasingly becoming the platforms upon which political and social governance occur. The configuration of these platforms, especially via software design, therefore has political and social implications for how people may manage resources and interrelate to each other. “Code is law,” as Professor Lawrence Lessig famously declared.⁵⁴² Second, as we explained relative to eco-digital commons in Section IV, digital systems are increasingly being integrated into ecological monitoring, management, and rules-enforcement, so the structure of the systems (open/closed, commons/proprietary) can have far-reaching “constitutional” implications.

Beyond these “side door” uses of private-law work-arounds to help ecological commons, such work-arounds also can directly establish ecological commons. Perhaps the most pervasive is the community land trust. Like the GPL and CC licenses, conservation trusts do not provoke hostility from private property devotees because the trusts are the voluntary and consensual choice of property owners. No one is coerced by the State to dedicate her/his private property to collective or intergenerational interests.⁵⁴³

A number of examples of eco-minded trusts serving the interests of indigenous peoples and poorer countries rely upon private-law work-arounds to property and contract law. The *Global Innovation Commons* developed by entrepreneur/activist David C. Martin and described in Section IV is a massive international database of lapsed patents that enables anyone to manufacture, modify, and share ecologically significant technologies.⁵⁴⁴ The *Heritable Innovation Trust*, also developed by Martin, uses contract law to help indigenous cultures protect their traditional knowledge commons in the face of trade conventions that subvert their control.⁵⁴⁵ The *Traditional Knowledge Digital Library*

⁵⁴⁰ See CAMBIA website, at <http://www.cambia.org/daisy/cambia/home.html> (accessed Aug. 6, 2011).

⁵⁴¹ The peculiar nature of data makes it very complex and legally inappropriate to attempt to make it proprietary via copyright law (and thus, by transference, shareable via Creative Commons licenses). See *CC0 FAQ*, on the Creative Commons website at http://wiki.creativecommons.org/CC0_FAQ (accessed Aug. 6, 2011).

⁵⁴² LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 20 (1999). Lessig writes, at 20: “There is regulation of behavior in cyberspace, but that regulation is imposed primarily through code. What distinguishes different parts of cyberspace are the differences in regulations effected through code. In some places life is fairly free, in other places controlled, and the difference between them is simply a difference in the architectures of control—that is, a difference in code.” Lessig does not mean to imply that code alone is law, of course, but that code in the digital age is a powerful new modality of law—one that obviously intersects with other modalities of law, most notably State Law, Market governance and social norms.

⁵⁴³ There is an ironic edge to this claim, however, because much of the growth of conservation trusts has been fueled by sizeable tax incentives that taxpayers underwrite.

⁵⁴⁴ See *supra* note 466 and accompanying text.

⁵⁴⁵ See Heritable Innovation Trust website at <http://www.heritableinnovationtrust.org> (accessed Aug. 6, 2011).

works within the framework of patent law to assure that formally registered traditional knowledge will be treated as a protected commons. It is a database of public-domain medical knowledge that can be used to document a specific body of traditional knowledge as “prior art,” and therefore render it ineligible for patents and available to commoners. The Library seeks to thwart a practice often known as “biopiracy,” in which multinational corporations assert patent ownership over ethno-botanical or agro-biological knowledge that has customarily been freely shared.

Property law professor Carol Rose has called commons that leverage property and contract law to serve collective interests “property on the outside, commons on the inside.”⁵⁴⁶ It is an apt description of the general category of private-law work-arounds.

3. Localism and Municipal Law as a Vehicle for Protecting Commons

Some of the most innovative work in developing ecological commons (and knowledge commons that work in synergy with them) is emerging from local and regional circumstances, particularly municipal governments and activists. The reason is simple: the scale of such commons makes participation more feasible and the rewards more evident. Local commons are also attractive because they provide practical opportunities to *reduce consumption* and thus the demands on natural systems.⁵⁴⁷ Here, we reference some of the more imaginative movements and projects now underway.

Perhaps the most salient projects are part of a burgeoning “re-localization movement” in the U.S. and U.K. that are attempting to bolster local self-sufficiency. As one Bay Area group describes it, re-localization is “the process by which a region, county, city or even neighborhood frees itself from an overdependence on the global economy and invests its own resources to produce a significant portion of the goods, services, food, and energy it consumes from its local endowment of financial, natural, and human capital.”⁵⁴⁸

⁵⁴⁶ Rose, *supra* note 484, at 155.

⁵⁴⁷ Jeffrey Sterling proposes new sorts of “demand-side reduction cooperatives” in local communities as practical ways to reduce consumption: “The basic idea is that siloed supply side companies are not in the business of reducing demand; they are in the business of increasing supply which damages the environment and is not sustainable. Creating community-run demand side reduction coops (that are voluntary) will make a community resilient, sustainable and will create work for community members. Having a community-owned [Internet] cloud will make the integration of demand side reduction services into the life of a community possible. Also establishing performance based contracts where demand reductions are measured will make it possible for demand side reduction services to be cash flow positive because demand reduction decreases the need for supply which keep the money in the community. Among Sterling’s examples: Catching rainwater in cisterns for graywater and freshwater supply that eliminated the need for the next groundwater well or dam. Superinsulating all homes in a community to reduce the number of new powerplants or a new gas pipeline. Creating a smart microgrid that will provide peaking power megawatts as an independent power producer and provide solar collectors for peak cooling as well as battery backup storage and essential power to computers in the home.” *Quoted at* <http://blog.p2pfoundation.net/a-sustainability-proposal-demand-side-reduction-cooperatives/2011/07/26> (accessed Aug. 6, 2011).

⁵⁴⁸ J. TALBERT ET AL., BUILDING A RESILIENT AND EQUITABLE BAY AREA: TOWARDS A COORDINATED STRATEGY FOR ECONOMIC LOCALIZATION (2006), *also available at* <http://www.regionalprogress.org> (accessed Aug. 6, 2011). *See also* ROB HOPKINS, THE TRANSITION HANDBOOK: FROM OIL DEPENDENCY TO LOCAL RESILIENCE (2008).

The *Transition Town* movement is the most visible and organized re-localization effort, with self-organized groups in more than 300 towns, mostly in the U.K., Ireland, Canada, and the United States. These groups are actively taking steps to mitigate the anticipated disruptions of Peak Oil and climate change.⁵⁴⁹ They are attempting to promote permaculture, rebuild local infrastructures with ecological design principles, cultivate local provisioning of food, build renewable fuel sources, and insulate their communities from the vagaries of the global economy and technologies. The movement frankly admits: “We truly don’t know if this will work. Transition is a social experiment on a massive scale. What we are convinced of is this: If we wait for governments, it will be too little, too late. If we act as individuals, it’ll be too little. But if we act as communities, it might just be enough, just in time.”⁵⁵⁰

Local commons are playing significant roles in re-imagining the food production and distribution systems. *Community-Supported Agriculture* (CSA) farms have grown tremendously over the past twenty years in the U.S. as a way for consumers and farmers to deal directly and share the economic risks and the social pleasures that come from a commons-based market. Part of a larger movement to revamp local food systems and culture, CSAs and their members share a commitment to wholesome, pesticide-free food, and the local landscape, economy, and community.⁵⁵¹ The *Slow Food* movement is an international movement that “unites the pleasure of food with responsibility, sustainability and harmony with nature,” according to Italian Carlo Petrini, the founder and president of Slow Food International (SFI). This global, grassroots movement has over 100,000 members organized in 1,300 “*convivia*,” or local chapters, which are committed to “practice small-scale and sustainable production of quality foods.”⁵⁵²

Another type of local commons that is surging in visibility is the *community forest* in which self-organized local groups, sometimes with the participation of local governments, buy and manage large tracts of forest land for the benefit of the community. Commoners share in the management, decision-making, and benefits of the forest, such as recreation, ecosystem protection, nature education, community-building and selective timber-harvests. Forest commons are pervasive in poorer, rural countries. “[I]n the developing world, nearly 145 million hectares are communally administered and an additional 180 million hectares are owned by communities and indigenous groups,” according the India-based publication, *Common Voices*.⁵⁵³ Community forests are growing in popularity in developed countries as well,⁵⁵⁴ in part because

⁵⁴⁹ See https://secure.wikimedia.org/wikipedia/en/wiki/Transition_Towns#cite_note-14 (accessed Aug. 6, 2011).

⁵⁵⁰ See Transition Network website, <http://www.transitionnetwork.org/support/what-transition-initiative> (accessed Aug. 7, 2011).

⁵⁵¹ See <http://www.localharvest.org/csa> (accessed Aug. 7, 2011).

⁵⁵² See <http://www.slowfood.com> (accessed Aug. 7, 2011).

⁵⁵³ Foundation for Ecological Security, *An Introduction to Forest Commons*, 3 COMMON VOICES 5 (2011), also available at <http://iasc2011.fes.org.in/common-voices-3.pdf> (accessed Aug. 12, 2011).

⁵⁵⁴ For example, the town of Gorham, New Hampshire, manages a community forest of 4,900 acres; Grand Lake Stream, Maine, has a 340,000-acre forest; both towns have year-round populations of about 150 people. See TRUST FOR PUBLIC LAND, COMMUNITY FOREST COLLABORATIVE, COMMUNITY FORESTS: A COMMUNITY INVESTMENT STRATEGY

they engage people in everyday stewardship of their local resource and offer an attractive way to re-imagine ecological governance beyond the options available via the State or Market.⁵⁵⁵

Community Environmental Legal Defense Fund (CELDF), previously noted in our discussion of Nature's rights,⁵⁵⁶ is a project that helps local communities assert local, democratic self-control over community resources threatened by large corporations such as big-box retailers and natural gas drillers.⁵⁵⁷ Special attention is paid to how to use municipal ordinances, home rule charters and other legal strategies to preserve local governance over things that matter to the community. The *Institute for Local Self-Reliance* provides a range of innovative strategies and working models for local self-sufficiency.⁵⁵⁸ The *Foundation for the Economics of Sustainability* is a major resource on locally based ecological economics.⁵⁵⁹ The City of Linz, Austria, is notable for announcing its intention of becoming the first "regional information commons" by using the Internet to make local information and creative works as open, accessible and shareable as possible. The city government aims to transform city politics, governance and culture by building a vast ecosystem of open-information commons, which would enable new types of commons-based ecological practices.⁵⁶⁰

4. Federal and Provincial Governments as Supporters of Commons Formation and Expansion

The next higher stages of government can and should play supportive roles in developing the Commons sector, much as they reflexively attempt to support market activity. State and national governments usually have commerce departments that host conferences, assist small businesses, promote exports, and so on. Other government programs may provide generous R&D support for market activity.

We already have noted Professor Carol Rose's analysis of how the managed commons can produce a "comedy of the commons,"⁵⁶¹ not a tragedy, because the principle of "the more, the merrier" in a commons generates greater collective value than private ownership or markets might produce. This analysis is confirmed as well by an analysis by Professor Brett M.

(Aug. 2007), *also available at* http://www.northernforest.org/data/uploads/docs/Community_ForestsA_Community_Investment_Strategy.pdf (accessed Aug. 7, 2011).

⁵⁵⁵ *Id.*

⁵⁵⁶ *See supra* notes 167-170 and accompanying text.

⁵⁵⁷ *See* Community Environmental Legal Defense Fund website, <http://www.celdf.org/index.php> (accessed Aug. 7, 2011).

⁵⁵⁸ *See* Institute for Local Self-Reliance website, <http://www.ilsr.org> (accessed Aug. 7, 2011)..

⁵⁵⁹ *See* Foundation for the Economics of Sustainability, <http://www.feasta.org> (accessed Aug. 7, 2011)..

⁵⁶⁰ Open Commons Region Linz <http://opencommons.public1.linz> (accessed Aug. 7, 2011); David Bollier, *The City of Linz: Pioneers a Regional Information Commons*, <http://bollier.org/city-linz-pioneers-regional-information-commons> (accessed Aug. 7, 2011).

⁵⁶¹ Rose, *supra* note 287. *See also supra* note 484.

Frischmann of the economic rationale for treating infrastructure as commons.⁵⁶² Although the institutional schemes for treating “environmental infrastructure” as “regulated semicommons” can be quite complicated and hybrid, as Frischmann explains,⁵⁶³ the essential point deserves emphasizing: Given the value-proposition of the Commons, it often makes much more economic and ecological sense for government to support “commons development” so that the benefits can be shared by all rather than privatized by a few.

One likely objection is that the benefits of commons cannot be easily measured and plugged into the kind of cost-benefit analyses that economists regard as “hard proof” of benefit. Studies of the quantitative and monetary benefits of “nature’s services” may quell some objections, but ultimately an observer must come to accept the *qualitative* benefits of commons as an epistemological reality. Commons routinely have publicly beneficial “spillover effects” that are subtle and diffuse in impact; subject to long time-horizons; and difficult to track in cause-and-effect ways.

Additionally, national and subnational governments can help build *trans-local structures* that can federate local- and subnational state-based commons and thereby amplify their impact. Locally oriented commons such as *Community Supported Agriculture* (CSAs) and the *Slow Food* movement could greatly have greater impact if government were to help them reach out to companion commons in other localities, enabling them to reap the positive externalities of mutual association. The power of such mutual support can be seen in the development of the *System for Rice Intensification* commons mentioned in Section IV, a self-organized international network of rice farmers whose collaboration has spawned innovative, ecologically responsible ways of improving crop yields.

Trans-local collaboration of commons has a particularly promising future now that the Internet is becoming ubiquitous, even in rural areas of poor countries. When local commoners involved in agriculture, sustainable forestry, or seed-sharing, can link up with international commoners in the same field, all sorts of innovative ecological practices can emerge and be improved upon and propagated rapidly. Some excellent examples of this can be seen in work done by the groups such as *Appropedia*, a website/wiki in which local actors collaborate in developing solutions for sustainability, poverty reduction and international development using appropriate technology;⁵⁶⁴ the *Global Villages Network*, which uses networking technologies to

⁵⁶² Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 4 (April 2005), also available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=588424 (accessed Aug. 7, 2011).

⁵⁶³ In practice, the dominant approach in the environmental area is a mixed strategy that regulates some uses and sustains a commons for others. In essence, environmental infrastructure resources often are sustained through complex institutional arrangements that form something akin to semicommons property regimes, although often through regulatory regimes rather than pure property regimes. This approach to constructing semicommons (1) assigns and regulates private rights (access, use, exclusion and/or exchange) for certain fields of use, such as diversion for industrial purposes; (2) defines commons in terms of community rights (access and use) for certain fields of use, such as recreational use; and (3) sustains the integrity of the resource for nonhuman users and future generations. Brent M. Frischman, *Environmental Infrastructure*, 35 ECOLOGY L. Q. 102 (2008), also available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1123732 (accessed Aug. 7, 2011).

⁵⁶⁴ See http://www.appropedia.org/Welcome_to_Appropedia (accessed Aug. 7, 2011).

help local communities address local development and improve their lives;⁵⁶⁵ and *Akvo.org*, which works transnationally to promote new water and sanitation projects at the local level.⁵⁶⁶

5. Strengthen the Public Trust Doctrine

The State often functions as a public trustee for present and future generations, or some designated subsets of them. We call this a stewardship *public trustee commons* as a way to emphasize that the resources belong to the people, not the government. A State trustee commons is a hybrid commons, as noted in Subsection 6 of Section IV. It does not exemplify the classic structures and relationships of a traditional commons described by Ostrom *et al.*, particularly in its scale and bottom-up management. Yet it is legally intended to serve many of the same functions, to wit, stable stewardship of the resource, equitable access and benefits to commoners, transparency and accountability, and the sanctioning of transgressors against the commons.

The State's role as a trustee of the Commons is often mandated by the *public trust doctrine*, a legal principle that goes back to time immemorial, but more reliably to the Roman Empire.⁵⁶⁷ The public trust doctrine formalizes the idea that a society's governing bodies have an affirmative duty to protect natural resources for the health and well-being of present and future generations. The doctrine has traditionally applied to rivers, the sea, and the coastal shoreline, protecting such activities as navigation, fishing, and recreation. The idea is that the unorganized public has sovereign ownership interests, over and above those of the State itself. The State may hold the legal title to the land or water, but the public is the beneficial owner. As a trustee, the State must exercise the highest duty of care in managing property that is necessarily held in common by all. This means, among other things, that the State may not sell or transfer common property to other parties.

In the United States, the courts have long recognized the public trust doctrine as a means of ensuring that the government protect public assets for present and future generations. When the Illinois legislature tried to transfer ownership of shoreline property along Lake Michigan held in public trust by the State of Illinois, the U.S. Supreme Court issued a landmark ruling in 1892—*Illinois Central R. Co. v. Illinois*⁵⁶⁸—prohibiting such a transfer as unconstitutional. The salience of the public trust doctrine grew in the 1970s in response to an influential law review article on the public trust doctrine by Professor Joseph Sax.⁵⁶⁹ Paradoxically, judicial interest in the public trust doctrine waned in heyday of the environmental movement, in the 1970s, largely because the enactment of numerous environmental statutes of sweeping scope eclipsed interest in a common-law doctrine. The courts have not significantly developed the public trust doctrine over the past four decades.⁵⁷⁰

⁵⁶⁵ See <http://www.globalvillages.org> (accessed Aug. 7, 2011).

⁵⁶⁶ See <http://www.akvo.org> (accessed Aug. 7, 2011).

⁵⁶⁷ Charles F. Wilkinson, *The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine*, 19 ENVTL L. 425, 429 (1989).

⁵⁶⁸ 146 U.S. 387 (1892).

⁵⁶⁹ Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970).

⁵⁷⁰ “The trust concept has remained underdeveloped in at least six respects. First, it has primarily evolved within the courts, having less of a presence in the other two branches of government. Second, it has been applied primarily to

This does not mean that the scope of the public trust doctrine could not be significantly expanded. Professor Mary Christina Wood, a leading scholar of the doctrine, argues persuasively in her *forthcoming* book *Nature's Trust*, that the courts can and should apply the public trust doctrine to a far broader array of natural resources, including protection of the Earth's atmosphere.⁵⁷¹ She believes the courts could justifiably apply the public trust doctrine to

the full “ecological res,” including the atmosphere, air, soils and forests—all of which carry as much importance as water resources to human survival and civilization. Failure to recognize these natural resources as assets in the trust simply perpetuates a misguided assumption underlying much of environmental law today—that natural assets are capable of severance and partition. In arguing for a holistic approach to the scope of protected assets, the discussion aims to align environmental legal doctrine with the ecological realities of Nature.”⁵⁷²

The enactment of numerous environmental statutes, Wood points out, does not mean that the public trust doctrine is inoperative, but it does require that courts step up and recognize the ancient provenance and purpose of the doctrine, construe it as having the stature of a constitutional principle, and apply its principles to contemporary public needs, namely, planetary survival. Wood writes that the doctrine “is most appropriately viewed as a fundamental, organic attribute of sovereignty itself,” and that the “beneficiary class” that is covered by the doctrine includes not just the present generation but future generations.⁵⁷³ It expresses the idea that the State has intergenerational responsibilities, something that native nations for millennia have practiced and many religious traditions honor by calling on humans to act as stewards of Creation's doing.

By seeing the State as a trustee of the Commons, we can entertain a more constructive array of State management options, such as the innovative commons trusts mentioned below in

state government. Third, it has been interpreted as applicable to primarily water and wildlife resources rather than the full span of natural resources. Fourth, it has never been infused into the statutory and regulatory structure that now dominates the field of natural resources law. Fifth, it has not been invoked to define transboundary responsibilities for common resources (like the oceans and atmosphere) in which many states or nations have interests. And sixth, it has not been linked to other important societal realms, such as the economic and moral realms.” Mary Christina Wood, *supra* note 222, at 66.

⁵⁷¹ MARY CHRISTINA WOOD, *NATURE'S TRUST: ENVIRONMENTAL LAW FOR A NEW ECOLOGICAL AGE* (*forthcoming from Cambridge University Press in 2012*); see also Mary Christina Wood, *Atmospheric Trust Litigation Around the World*, in *FIDUCIARY DUTY AND THE ATMOSPHERIC TRUST* (Ken Coghill, Charles Sampford, & Tim Smith eds., *forthcoming from Ashgate Publishing-Australia in Jan. 2012*); _____, *Atmospheric Trust Litigation*, in *CLIMATE CHANGE READER 1018* (W.H. Rodgers, Jr. & M. Robinson-Dorn, eds., 2011).

⁵⁷² Wood, *supra* note 222, at 89.

⁵⁷³ *Id.* at 69, 71. “The role of natural resources in realizing the perpetual human self-interest does not diminish over time, because the fabric of ecology is as vital to each future generation as it was to each past generation, though the modes of resource utilization may change over time. From this it can be surmised that any government deriving its authority from the people never gains delegated authority to manage resources in a way that jeopardizes present or future generations or diminishes the people's use of resources that have public benefit. The trust's attribute of sovereignty, then, is fundamentally one of limitation, not power, organically comprised as a central principle of governance itself.”

Sussections 7, 8 and 9. However, a prior political hurdle is the capture of State administrative and legislative bodies by special interests, which forces us to ask the question: *How can the State be made to uphold its public trust responsibilities?*

The first, most obvious approach is through judicial enforcement of the public trust doctrine and, we urge, a more muscular interpretation of the doctrine to address contemporary environmental realities, such as the deterioration of the atmosphere. This requires more concerted test cases and “judicial education” to bring the public trust doctrine to the fore.⁵⁷⁴ One such attempt, the U.S.-based *Atmospheric Trust Litigation* project, has organized a series of fifty federal and State lawsuits that seek a declarative judgment affirming the applicability of the public trust doctrine. The lawsuits also seek injunctive relief that forces the U.S. federal and state governments to reduce carbon emissions in fulfillment of their duty to protect the Earth’s atmosphere.⁵⁷⁵ Atmospheric protection may be the most urgent potential application of the public trust doctrine, but consistent with the analysis set forth by Wood and others, the doctrine could and should be applied to other ecological systems—the oceans, wetlands, forests, species habitat, and more. The public trust doctrine offers a powerful, venerable legal tool to uphold the principle that the State must act as a conscientious trustee of ecological commons.

6. State Trustee Commons

State trustee commons—some established pursuant to the public trust doctrine, others established by statute—are generally administered by government agencies, as overseen by the legislature. They attempt to protect a specified realm of common assets through regulatory programs and enforcement. Prominent examples include national parks, forestry, fisheries and wildlife management, wilderness protection, and wetlands management. Some state trustee commons oversee the leasing of public assets such as land containing oil, groundwater supplies, minerals, timber and grasslands for cattle-grazing. There are many other State trustee commons that do not involve natural resources (such as federally financed research, databases and information, the Internet, federal highways, museums, etc.), but we will focus here on those involving ecosystem resources.

The recurrent problem with State trustee commons is the “fox in the chicken coop” scenario: regulated industries have captured the leadership and policymaking of agencies, effectively neutering or countermanding their statutory missions to protect the common wealth. In the United States at least, the very centralization of authority in federal agencies that is intended to make decision-making more expert and consistent has instead provided rich opportunities for political cronyism, corruption, and “split the difference” stewardship of common assets. Even sincere, well-intentioned, politically committed agency leaders find it difficult to overcome the innumerable impediments to good regulation contrived by recalcitrant legislators and regulated industries.⁵⁷⁶

⁵⁷⁴ Regarding *necessary* judicial education, see Joseph H. Guth, *Law for the Ecological Age* (Background Paper 11), in WESTON & BACH, *supra* note 22, Appendix I.

⁵⁷⁵ The Atmospheric Trust Litigation, the brainchild of Professor Mary Christina Wood, is being coordinated by Our Children’s Trust, a nonprofit organization, <http://www.ourchildrenstrust.org> (accessed Aug. 7, 2011).

⁵⁷⁶ McGarity, et al., *supra* note 193. See also notes 194 and 195 for further references on the failures of the regulatory state.

Reforming the administrative State is well-nigh impossible given the larger political priorities of the State/Market. There are two possible responses: (1) intensify citizen pressures on regulatory agencies to carry out their statutory obligations (which may be deficient in the first place) through research, standard-setting and enforcement; and (2) devise new structural roles for administrative agencies that leverage commons-based solutions. Option 1 has been the centerpiece of the environmental movement for the past generation, and it has yielded, as noted earlier, irregular and dwindling results, if not outright failure. Regulatory watchdogs clearly need to continue their Sisyphean work, but if we are ever going to get ahead of the curve of relentless environmental decline, structural changes will be essential. We therefore propose, in the following Subsections 7, 8 and 9, several structural changes that would make administrative agencies more effective, reliable trustees of the Commons.

7. *Eco-digital Innovations: Crowdsourcing, Participatory Sensing, Wikis and More*

In the 20th Century, the administrative State “hollowed out” democratic participation by centralizing authority and implementation and relying upon political appointees and scientific experts. Such decision-making has actually served to exclude citizens from participating in regulation and ensured that regulated industries would have privileged access and influence over policy and enforcement. Fortunately, various digital networking technologies now make it possible to reinvent the administrative process so it can be more transparent, participatory and accountable.

In Section IV, we noted a number of important crowdsourcing and participatory sensing innovations.⁵⁷⁷ Government-hosted wikis are another vehicle for eliciting public sentiment and suggestions in ways that can materially affect policy outcomes.⁵⁷⁸ The State of Florida recently posted a special software on a website and invited the public to suggest how the state’s electoral districts should be redrawn.⁵⁷⁹ This public participation is coming *before* the maps have been drawn, so citizens are not simply commenting after-the-fact on proposed maps. This kind of “distributed participation” through Internet technologies is a way of citizens pressuring the State to respond to public opinion.

The U.S. Patent and Trademark Office in 2009 established an expert network called Peer to Patent that “harnesses citizen-experts to improve patent quality by helping identify prior art relevant to pending patent applications.”⁵⁸⁰ The effort is part of a much larger dynamic of using open

⁵⁷⁷ On the meaning of “crowdsourcing,” see <http://en.wikipedia.org/wiki/Crowdsourcing> (accessed Aug. 30, 2011). For more on crowdsourcing, see *supra* note 253 and *infra* note 581.

⁵⁷⁸ On the meaning of “wikis,” see <http://en.wikipedia.org/wiki/Wiki> (accessed Aug. 30, 2011).

⁵⁷⁹ See Greg Allen, *Florida Begins Redistricting Hearings* (National Public Radio broadcast, June 23, 2011), *transcript available at* <http://www.npr.org/2011/06/23/137376145/politics-embroil-floridas-redistricting-hearings> (accessed Aug. 8, 2011); Amateur software applications such as “Dave’s Redistricting,” at <http://gardow.com/davebradlee/redistricting/launchapp.html> (accessed Aug. 8, 2011) are democratizing the ability to map legislative districts, which in turn is providing heightened public visibility and accountability for that highly politicized process.

⁵⁸⁰ See <http://www.peertopatent.org> (accessed Aug. 8, 2011).

platforms to capture the “wisdom of the crowd” to serve larger societal purposes. The Smithsonian Institution is now using social media, such as its Smithsonian Commons project, to encourage free and unrestricted online sharing of Smithsonian resources and social networking as a way to enhance the museum’s mission.⁵⁸¹ This resembles the pioneering “Clickworkers” initiative launched by NASA in 2000 to recruit volunteers to classify the craters of Mars, now carried on by its “Be a Martian!” website.⁵⁸² In Colorado, “collaborative conservation” has enabled farmers, industries and households to save water and help protect endangered fish in the Upper Colorado Basin, using a broader range of recovery tools that would otherwise have been available under traditional regulation and the Endangered Species Act.⁵⁸³

At the moment, “virtual commoning” innovations are highly eclectic and irregular. But they point to some compelling new ways of rehabilitating administrative regulation and engaging citizens to play direct, collaborative roles in monitoring and managing ecological resources. Crowdsourcing and “virtual participation” platforms quicken people’s sense of affiliation, responsibility, and stewardship, and produce more informed, democratically responsive policy.⁵⁸⁴ By leveraging such participation, the State could do a better job of carrying out its public trust and statutory responsibilities.

8. Establish Commons Trusts to Manage Common Assets and Distribute Revenues

Commons scholar Peter Barnes has pointed out that the trust is a familiar legal form that can serve as a template for designing new sorts of commons institutions.⁵⁸⁵ The trust is to the Commons as the corporation is to the marketplace, he has written: “The essence of a trust is a fiduciary relationship. Neither trusts nor their trustees may ever act in their own self-interest; they’re legally obligated to act solely on behalf of beneficiaries.”⁵⁸⁶ Barnes continues: “Trusts are bound by numerous rules, including the following: Managers must act with undivided loyalty to beneficiaries.

⁵⁸¹ For example, the museum is using crowdsourcing to help identify unknown people in archival photos and to solve curatorial mysteries. Elizabeth Olson, *Smithsonian Uses Social Media to Expand Its Mission*, N. Y. TIMES, Mar. 10, 2011, also available at https://www.nytimes.com/2011/03/17/arts/design/smithsonian-expands-its-reach-through-social-media-and-the-public.html?_r=1 (accessed Aug. 8, 2011); see also Smithsonian Commons Wiki at <http://smithsonian-webstrategy.wikispaces.com> (accessed Aug. 8, 2011).

⁵⁸² “Virtual Volunteering” is a growing phenomenon. See https://secure.wikimedia.org/wikipedia/en/wiki/Virtual_volunteering (accessed Aug. 8, 2011). NASA’s current website for “clickworking” is its “Be a Martian” website, at <http://beamartian.jpl.nasa.gov/welcome> (accessed Aug. 8, 2011).

⁵⁸³ John Loomis, *Collaborative Conservation: Endangered Fish Recovery in the Upper Colorado Basin*, Portland State University, <http://www.youtbue.com/watch?v=zJsdZ4ukMJs> (Internet video, accessed Aug. 8, 2011).

⁵⁸⁴ Professor of Psychology Tim Kassar at Knox College, has studied extensively the need for personal and social changes to meet ecological challenges. He writes: “A growing body of psychological research suggests that if these efforts incorporated more knowledge about human identity (including our values, our sense of social identity, and the ways we cope when threatened), greater progress towards a more sustainable (and socially just) world might be forthcoming.” Tim Kassar, *Human Identity and Environmental Challenges*, lecture available at <http://www.pdx.edu/sustainability/events/tim-kasser-lecture-human-identity-and-environmental-challenges> (accessed Aug. 8, 2011).

⁵⁸⁵ BARNES, *supra* note 514, at ch. 6 (“Trusteeship of Creation”).

⁵⁸⁶ *Id.* at 83.

Unless authorized to act otherwise, managers must preserve the corpus of the trust. It's okay to spend income, but not to diminish the principal. Managers must ensure transparency by making timely financial information available to beneficiaries.”⁵⁸⁷

A number of state-sanctioned common assets trusts manage revenues on behalf of commoners, and a number of new ones have been proposed in recent years. The *Alaska Permanent Fund*, created by the Alaska state legislature in 1980, diverts a royalty on all oil drilled on state lands to the Fund, which then distributes dividends to all Alaskan households each year—usually on the order of \$1,500 per household—from its \$32 billion endowment.⁵⁸⁸ *Social Security* is an inter-generational risk-insurance commons that serves commoners as a quasi-independent trust. The *Land and Water Conservation Fund* is a state-sanctioned trust that channels offshore oil and gas drilling revenues to acquire land for parks, forests and open spaces and to develop recreational projects.⁵⁸⁹

The “stakeholder trust” is a legal regime that could be adapted to ensure that the public receives its due entitlements from the Market exploitation of natural resources (in cases where Market use of the resource is appropriate and sustainable). Currently, the U.S. government leases access to public lands (for mineral extraction, oil, timber, and cattle-grazing) and ocean fisheries, but the revenues collected are grossly lower than open markets would pay for similar resources and the revenues do not begin to compensate for the ecological harm and over-use that occurs.⁵⁹⁰ In a few cases, the government holds auctions for the use of common assets, such as telecom companies’ use of the electro-magnetic spectrum for wireless services, and polluters’ use of the sky to get rid of sulfur dioxide and nitrogen oxide. Other common assets, such as the broadcast airwaves and the atmosphere (as a repository for pollution), are treated as “free” resources that industry may use without payment.

In all of these cases, and others, commons trusts may be a suitable vehicle for capturing revenues generated from common assets and channeling some portion of them to the public directly. For example, to help control carbon emissions and prevent global warming, Peter Barnes has proposed a U.S.-based *Sky Trust*—also known as “cap-and-dividend.”⁵⁹¹ This scheme auctions pollution rights to industry and places the revenues in a trust fund owned by all citizens. Over time, the Sky Trust would distribute dividends to everyone, much as the Alaska Permanent Fund does. The beauty of the system is that it would use market incentives to discourage pollution, reward those who reduce their carbon use, and help consumers offset higher prices.

⁵⁸⁷ *Id.*

⁵⁸⁸ For quick insight, see *Alaska Permanent Fund*, WIKIPEDIA.ORG, http://en.wikipedia.org/wiki/Alaska_Permanent_Fund (accessed Feb. 28, 2011).

⁵⁸⁹ See U.S. Forest Service, Land and Realty Management website at <http://www.fs.fed.us/land/staff/LWCF/index.shtml> (accessed July 29, 2011).

⁵⁹⁰ BOLLIER, *supra* note 2, at ch. 6 (“The Abuse of the Public’s Natural Resources”).

⁵⁹¹ See Cap and Dividend website at <http://capanddividend.org> (accessed Aug. 8, 2011).

There are other trust-based proposals. A number of environmental economists have proposed the establishment of a global *Earth Atmospheric Trust* based on the Sky Trust idea.⁵⁹² An *Ocean Trust* has also been proposed that would rely upon the public trust doctrine.⁵⁹³ A charitable trust model has been proposed for genomic biobanks, which are large-scale databanks of biologic specimens and medical information used in pharmacogenomic research.⁵⁹⁴

One of the most ambitious new proposals to apply trust principles to manage commons is legislation calling for the creation of a *Vermont Common Assets Trust*. The law seeks to declare that certain natural resources within the state's borders are common assets that belong to all citizens of the state.⁵⁹⁵ The Trust's foremost duty would be to protect designated common assets for present and future generations. Where appropriate, the Trust would generate revenues from leasing those assets (such as selling water extraction rights to bottlers or timber-harvesting rights). The money would not flow through the legislature, but would be managed directly by the Trust. The legislation would also expand the scope of the public trust doctrine. Instead of covering just navigable waters and shorelines, the public trust doctrine would explicitly apply to "undisturbed habitats, entire ecosystems, biological diversity, waste absorption capacity, nutrient cycling, flood control, pollination, raw materials, fresh water replenishment systems, soil formation systems, and the global atmosphere." It would also apply to "social assets such as the Internet, our legal and political systems, universities, libraries, accounting procedures, science and technology, transportation infrastructure, the radio spectrum and city parks."

Finally, it is useful to entertain the model of State trusts that provide direct services and financial benefits. A great example is the North Dakota State Bank, which takes a stake in loan packages and so reduces the levels of risk that private, commercial banks must assume.⁵⁹⁶ It also

⁵⁹² Peter Barnes et al., *Creating an Earth Atmospheric Trust: A System to Control Climate Change and Reduce Poverty*, 319 SCIENCE 724 (Feb. 8, 2008).

⁵⁹³ Peter H. Sand, *Public Trusteeship for the Oceans*, in TAFSIR MALICK NDIAYE & RÜDIGER WOLFRUM, LAW OF THE SEA, ENVIRONMENTAL LAW AND SETTLEMENT OF DISPUTES: LIBER AMICORUM 521 (2007).

⁵⁹⁴ David E. Winickoff, J.D. & Richard N. Winickoff, M.D., *The Charitable Trust as a Model for Genomic Biobanks*, 349 NEW ENG. J.MED. No. 12, 1180 (Sept. 18, 2003).

⁵⁹⁵ The legislation, H. 385, Gen. Assem., 2010-2011 Sess. (Vt. 2011) is available at <http://www.leg.state.vt.us/docs/2012/bills/Intro/H-385.pdf> (accessed Aug. 8, 2011); see also David Bollier, *The Vermont Common Assets Trust*, Mar. 10, 2011, <http://bollier.org/vermont-common-assets-trust> (accessed Aug. 8, 2011)..

⁵⁹⁶ See Bank of North Dakota website, <http://www.banknd.nd.gov> (accessed Aug. 8, 2011). Although the State earns about 0.25 percent less interest on funds deposited in the Bank of North Dakota than in commercial banks, it does not pay state or federal taxes. Nor does it pay deposit insurance; essentially the State of North Dakota is the guarantor of funds: a great way for taxpayers to leverage their collective equity for collective benefit. (If government is going to act as a guarantor for banks, why not reap some margin from doing so to benefit the general public?) Because the Bank of North Dakota is not obliged to maximize returns for private investors, but to serve the common good—within the bounds of responsible banking practices—it can spend time and energy trying to make deals work rather than summarily rejecting them as too risky or not lucrative enough. After all, the bank realizes that putting together a successful loan package could have enormous effects on community development—something that is lesser priority for commercial banks. As a result, the Bank of North Dakota is often willing to take extra steps to try to make local development projects work. In 2009, the Bank of North Dakota had profits of \$58.1 million (on a loan portfolio of \$2.67 billion), which was the sixth consecutive year of record profits. Over the past decade, the bank has channeled about \$300 million

makes direct loans to South Dakota farmers, students, and businesses at reasonable rates, and it acts as the repository for the funds administered by all North Dakota state agencies. The Bank got its start in 1919 when out-of-state bankers and grain dealers were manipulating markets and credit to farmers in the state, hurting the ability of farmers to buy and sell crops and finance farm operations.

9. State Chartering of New Types of Commons Trusts

Rather than rely exclusively upon centralized bureaucracies to monitor environmental quality and enforce laws—an approach that has yielded disappointing results—an attractive alternative is for the State to charter new types of commons trusts. The trusts may go by different names and have different delegations of authority, but the basic idea is for commoners to act as stewards for designated resources, for both their own benefit and the wider public's, and to work as partners with the State in protecting common-pool resources.

A classic example is the *acequias* sanctioned by the State of New Mexico, as described in Section IV.⁵⁹⁷ The New Mexico state government authorizes indigenous peoples to manage their own *acequias* with designated water allocation rights. This delegation of stewardship empowers distinct communities to manage their own water resources responsibly. Grounded by deeply rooted traditions and cultural practice, *acequias* have been able to prevent over-exploitation of scarce water supplies and assure a rough social equity in allocations.

Critics may argue that *acequias* and other indigenous commons are special cases, because they draw upon centuries-old traditions and practices that are alien to modern-day citizens. In a way, however, that is precisely the point: to try to emulate and develop modern-day analogues of indigenous commons by working through formally sanctioned “commons trusts.” Professor Mary Christina Wood notes how Native Americans have entered into a variety of fruitful partnerships with the conservation land trust movement, with benefits to both parties. Ordinary citizens and environmental groups are pleased to be preserving more land from development, and the Native organizations are happy to use conservation easements and other private-law tools as ways to “regain access to cultural resources and apply management expertise to land from which tribes have been excluded for generations,” Wood explains.⁵⁹⁸

The partnerships can be seen as crucibles for forging a new land ethic based on active commoning. Wood writes:

Land trusts often lack a cultural and historical relationship to the lands they conserve, and their management does not encompass any religious or spiritual approach to Nature. Moreover, their market approach to conservation, combined with their neutral demeanor

to the state treasury, where it supplements the budget of the state government. See David Bollier, *Why Not State Banks?*, February 26, 2010, at <http://bollier.org/why-not-state-banks> (accessed Aug. 12, 2011); Barbara Dudley, *The State Bank Solution*, THE NATION (June 27, 2011), at 19.

⁵⁹⁷ See *supra* note 438 and accompanying text.

⁵⁹⁸ Wood & Welcker, *supra* note 442, at 373, 398.

toward the development industry, reinforces the social acceptability of viewing land as a market asset and exploiting it for profit.

. . . [By contrast, tribes] are positioned to spread their own land ethic when they return as trustees of aboriginal lands. . . . The consistent expression of intergenerational responsibility and stewardship obligations towards Nature, grounded in timeless cultural practices, has the potential to proliferate a type of respect that is still foreign to the majority society. . . .⁵⁹⁹

Wood points out that the abiding challenge is to find ways to demonstrate how humans can live in a symbiotic relationship to the land, something that Native Americans, through their spiritual relationships to aboriginal land, have been able to achieve. “A generalized land ethic of the kind Aldo Leopold espoused,” Wood writes, “is often not enough to overcome a community’s entrenched outlook on private property rights. By bringing spiritual, cultural and historical context to threatened resources through a uniquely Native worldview, tribal trustees may be able to spread a reverence for Nature, a will for conservation and a penchant for natural abundance that the mainstream environmental movement has not yet been able to achieve.”⁶⁰⁰

The point of commons trusts is to grow a participatory culture of stewardship that can persist and cherish the resources that need to be protected. State Law must find ways to support vernacular community practice. What’s happening on the ground, in everyday life, in a specific location, among people who love that place, is a strong base from which to grow a sustainable land ethic. In the case of Native Americans, the idea of the land trust works well—despite its grounding in the liberal polity of individualism and private property rights—because the trust is based on the kind of stewardship principles that lie at the heart of tribal aboriginal management.

While *acequias* and land trusts are notable forms of commons trusts, others deserve to be studied further and emulated. There are a number of Commons/State partnerships that combine the best of State authority with commons-based participation. The Adirondack Mountain Club, for example, has close working relationships with the U.S. Forest Service in the management of its land and hiking trails. The Alpine Stewardship Volunteer Program works to protect alpine vegetation and the Trail Stewardship program maintains more than 3,500 miles of the Appalachian Trail.⁶⁰¹ In New York City, a group of citizens entered into a partnership with the city government to preserve and maintain an elevated trestle structure that had once carried freight trains; they turned it into a lovely elevated park, High Line Park, and formed a commons-like nonprofit, Friends of the High Line, which is responsible for 70 percent of the park’s budget and actively maintains it.⁶⁰² Of course, partnerships such as these have not only great potential for empowering citizens, they also can make it easy for the State to shirk its budgetary responsibilities. Voluntarism and philanthropy can easily become a subterfuge that allows the cutting of social services budgets to be disguised as a

⁵⁹⁹ *Id.* at 428.

⁶⁰⁰ *Id.*

⁶⁰¹ See <http://www.outdoors.org/volunteers/information/information-alpine.cfm> (accessed Aug. 8, 2011).

⁶⁰² See <http://www.thehighline.org> (accessed Aug. 8, 2011).

high-minded way of helping people (as exemplified in the United States, for example, by President George H.W. Bush's "Thousand Points of Light" campaign).

Beyond voluntarism, commons trusts can be imagined as significant forms of commons governance. James B. Quilligan has proposed the idea of a "social charter" as a means by which producer/consumers can enter into co-governance of a resource with or without the formal authority of the State. Quilligan writes:

A social charter is a formal declaration which outlines the rights and incentives of a community—involving both local jurisdictions and the multijurisdictional environment—in the supervision and protection of a common resource. The charter describes patterns of relationships between the resources and its users, managers and producers, allowing them all an opportunity to voice the mutual interests and responsibilities emerging from their rights to these common goods. The social charter empowers a geographical group and a broader association of stakeholders to hold a commons in trust for its beneficiaries, thereby safeguarding these vulnerable resources from the growing pressure to exploit them.”⁶⁰³

As a practical matter, the State may well object to social charters that flout its established authority, a problem for which commoners have little redress. Or the State could try to try co-opt social charters, using them to mask State control. As Quilligan notes: "Social charters generated by states often disempower those who use and manage a local commons. They put the locus of power in government and function more as a complaint mechanism or quality control procedure than as a means of honoring the rights of people to their commons.”⁶⁰⁴ But such co-optation of State chartering need not be inevitable, particularly if there is a well-organized group of commoners eager to assume certain responsibilities.

A number of American states have been introducing new forms for *corporate charters* for socially beneficial purposes.⁶⁰⁵ Surely innovative charters for commons-based initiatives deserve serious exploration as well. The point is to legitimize the idea that commoners can and should come together to create their own governance mechanisms.

⁶⁰³ Quilligan, *supra* note 527.

⁶⁰⁴ *Id.*; see also http://p2pfoundation.net/Social_Charters_FAQ (accessed Aug. 8, 2011).

⁶⁰⁵ Maryland, New Jersey, Virginia, and Vermont have authorized people to create a "Benefit Corporation," which does not require the corporation to make profitability its fiduciary priority; companies are authorized to combine the profit motive with the goal of making "a positive impact on society and the environment." Jamie Raskin, *Plan B for Corporations*, THE NATION, June 27, 2011, at 14. In 2008, the Vermont legislature formally conferred "legal personhood" on online communities that wish to form limited-liability partnerships. The law enables people to come together as virtual businesses, with dispersed partners who may live anywhere, and avoid the usual requirements that the company host in-person board meetings, maintain a physical office, and file paper documents with the state. See David Bollier,

10. New Types of Multilateral Institutional Frameworks that can Manage Certain Global Common-pool Resources

The existing multilateral system that privileges national sovereignty, neoliberal policy, and private (i.e., corporate) property rights is unlikely to curb growth, respect biophysical limits, and make good on the human right to a clean and healthy environment. This would violate its deepest structural imperatives.

The dead-end approach of current multilateral governance can be illustrated by the ways in which it approaches, say, protection of the Amazon's rain forests, often cited as the "lungs of the world." The prevailing worldview prompts us to ask, "Well, who really *owns* the Amazon, anyway?" Is it the indigenous peoples who live there? The provincial governments for those domains? The Brazilian government? The nations of the world who have a stake in a healthy atmosphere? Or all of humanity, now and in the future? The premise of an "ownership framed" question preordains the plausible solutions, all of which must first conform to basic premises of the status quo: national sovereignty, commodification of nature, progress through maximum production. No wonder that "jurisdictional disputes" come to the fore; the question "Who owns *X*?" virtually dictates the response.

A commons perspective offers a way to reframe the issue ("Who Owns Nature?") and open up a richer set of practicable responses. When the preservation of ecological resources is made the overriding concern, around which the political economy and governance must be subordinated, the point of governance is no longer about establishing exclusive sovereignty over a territory or resource. The concern becomes, rather, how to establish stable, harmonious terms of interdependence and stewardship for a holistic, indivisible system upon which all parties depend. It is an archaic, anthropocentric conceit that we should try to establish bright-line boundaries that parcel out control over an indivisible "resource" among different claimants, each of whom then enjoys rights of absolute dominion. Such a claim is dangerously impractical when living on an ecologically interdependent planet.⁶⁰⁶

Far more rational and realistic, ecologically speaking, is to establish a commons governance system that establishes the terms of sufficiency for each "node" of a multi-tier commons system (local, national, regional, global and points in between), and then tries to create and share positive externalities among them. In such a governance structure, once basic sufficiency for a given commons has been met each commons node has incentives to share expertise, spillover ecosystem benefits, technology-transfers, and the like. But this can occur only if the framing of governance moves from *ownership* to *stewardship*. Ownership presumes a right of sovereign dominion over nature, including the right to commodify it, as well as the severability of elements of nature from the planetary whole. Both are dangerously antiquated ideas. By contrast, stewardship presumes an

⁶⁰⁶ Interestingly, the idea that *healthy relationships* might be more important than *individual property rights* seems to be taking hold among many museums in the U.S. and Great Britain with respect to ancient artifacts that imperial powers seized in the 19th and 20th Centuries from Greece, Italy, Peru and other nations. As museums repatriate iconic artifacts in response to lawsuits and public pressures, they are finding that titular ownership in a globalized art world may be less important than maintaining give-and-take relationships with other museums that make it easier to borrow artworks and collaborate in mounting exhibits. A lesson for ecological governance?

interdependency among people, and with nature, and implies respect and obligations to be paid to everyone today and future generations. It also is consistent with the essence of human rights, in general, and the right to environment, in particular.

This re-framing does not solve the dilemma, of course. The key collective-action challenge remains: How to establish a default commitment to a system of commons-based global governance when the perceived gains from private “defections” remain so large and when existing State/Market commitments are so entrenched? Perhaps it will take an abrupt ecological catastrophe to shock the corporate and political guardians of the State/Market into realizing that self-serving postures and beggar-thy-neighbor claims are producing a tragedy of the Market—sub-optimum if not destructive collective performance—and that new types of international collaboration are essential. The fact remains, however, that the invention of new multilateral norms, institutions, and procedures to protect the integrity of natural systems—of life on Earth—is one of the most if not *the* most necessary and urgent issues facing humankind.

Yet, if history is any guide, even catastrophes seem unlikely to jolt the guardians of the State/Market system into abandoning an imploding, dysfunctional system of governance; the impetus for a political transformation is not likely to emerge from the State/Market itself.⁶⁰⁷ It will need to come, rather, from the commoners themselves, whose advocacy and working alternatives will be the seedbed for more expansive, innovative forms of multilateral governance.

We do not at this time have a sweeping blueprint for a new multilateral system of ecological governance, arguably the most daunting collective-action problem that humankind ever has confronted. Developing such a system will require expertise, intellectual exchange, and social engagement beyond the capacity of any two individuals. However, we do have strong convictions about three key design principles that, in our view, should guide the development of any new multilateral systems.

► ***New policies and practices must foster the interdependency of States among one another and with nature.***

Much as global trade policies and institutions are structured to facilitate commercial interdependencies among States, so we need to foster new multilateral policies, institutions, and practices that foster interdependency in environmental stewardship. Such ideas run against the grain of the neoliberal polity, of course, as seen in such failures as the Kyoto Protocol and the Copenhagen climate change summit. Aggressive environmental cooperation threatens the core priorities of the State/Market agenda.

⁶⁰⁷ Consider how the financial industry continues to pursue the same risky and predatory business practices that, in recent years, nearly destroyed the global economy, and with the full approval of the State. Indeed, even at this writing there is no guarantee that such a disaster will be averted.

However, attempts to nurture a new transnational ethic of environmental stewardship must start somewhere. One of the most prominent is the Earth Charter,⁶⁰⁸ a “people’s charter” that sets forth “fundamental ethical principles for building a just, sustainable and peaceful global society in the 21st century.”⁶⁰⁹ The Charter was finalized in 2000 after ten years of worldwide discussion and adopted by 4,500 organizations, including many governments. Its Preamble states:

We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.⁶¹⁰

More recently, the proposed Universal Declaration of the Rights of Mother Earth, which emerged from the People’s Conference in Bolivia in 2008, is an attempt to extend the ethic of interdependency to Mother Earth itself.⁶¹¹ The Declaration notes that “[w]e, the peoples and nations of Earth . . . are all part of Mother Earth, an indivisible, living community of interrelated and interdependent beings with a common destiny.”⁶¹²

Beyond the symbolic and norm-changing value of such declarations, it is important to develop actual governance systems, in whatever limited forms, that can demonstrate the functional value of new collaborative governance. One way to do this is to empower commoners to act as trustees of a given natural resource for their own benefit as well as for stipulated larger interests of humanity and Mother Earth—and then develop administrative and legal linkages between these commons and larger international legal institutions. A good example is the Potato Park in Peru, a *sui generis* legal regime that gives indigenous tribes explicit stewardship rights over a wide variety of rare potatoes considered to be part of the agro-ecological landscape and tribal culture.⁶¹³ A specified region has been designated an Indigenous Biocultural Heritage Area, which enshrines an holistic, community-led, and rights-based approach to conservation while protecting and enhancing local

⁶⁰⁸ Adopted at The Hague by the Earth Charter Commission, June, 29, 2000, available from the Earth Charter Commission at <http://www.earthcharter.org> (accessed Aug. 8, 2011), *reprinted in* V BASIC DOCUMENTS, *supra* note 13, at V.K.2a.

⁶⁰⁹ See the Earth Charter Initiative website at <http://earthcharterinaction.org> (accessed Aug. 12, 2011).

⁶¹⁰ [Http://earthcharterinaction.org/content/pages/Read-the-Charter.html](http://earthcharterinaction.org/content/pages/Read-the-Charter.html) (accessed Aug. 12, 2011).

⁶¹¹ See *supra* note 141 and accompanying text.

⁶¹² *Supra* note 141.

⁶¹³ See Alejandro Argumedo, *The Potato Park, Peru: Conserving Agrobiodiversity in an Andean Indigenous Biocultural Heritage Area*, in PROTECTED LANDSCAPES AND AGROBIODIVERSITY VALUES (T. Amend, et al. eds., 2008). See also the Satoyama Initiative to United Nations University Institute of Advanced Studies, The Ayllu System of the Potanto Park, Cusco, Peru (May 3, 2010), <http://satoyama-initiative.org/en/case-studies/americas/agriculture/ayllu-system> (accessed July 30, 2011).

livelihoods and biocultural diversity. Management practices in the Potato Park are based on the traditional knowledge and cultural practices of indigenous Peruvians. Such a scheme empowers local and regional commoners with direct responsibilities and entitlements, and preserves their cultural traditions and livelihoods as well. But the regime also serves the larger interests of the world in preserving the ecological biodiversity of the region (especially of the potatoes), preventing biopiracy, and enabling managed scientific access to noteworthy plants.⁶¹⁴

Another innovative governance idea, proposed by the Government of Ecuador, aims to create a U.N.-administered trust to protect a region renowned for its biodiversity and containing huge supplies of untapped oil, which is also home to a number of indigenous peoples living in voluntary isolation. Under the Yasuni Ishpingo Tambococha Tiputini (ITT) Trust Fund initiative, the government of Ecuador plans to renounce the exploitation of the oil and preserve the lands of the Yasuni National Park intact, if industrialized countries contribute at least half the market value of the oil into a special trust fund to be administered by the United Nations Development Programme (UNDP).⁶¹⁵ Revenues from the trust fund would be used to support renewable energy sources, reforestation, and social development within Ecuador. The plan represents a huge financial sacrifice for the Ecuadorian government, which depends upon oil for half its tax revenues and 20% of its GDP. Yet the Ecuadorian government recognizes the long-term importance of protecting the remarkable natural biodiversity within its border. It also believes that the world should share the burden in helping to reduce the release of additional carbon into the atmosphere.

Within the dominant economic framework, Ecuador's aversion to drilling the oil is compared to a "beggar sitting on a gold sack."⁶¹⁶ The Yasuni-ITT initiative is an attempt to re-conceptualize the very idea of "wealth" by developing a new ethic and relationships with nature. The basic idea is to treat nature as a subject in relationship to humankind, and not merely an insensate object to be exploited. "This is the core of Nature's Rights," explains Alberto Acosta, Economist at Facultad Latinoamericana de Ciencias Sociales (FLACSO) and the former President of the Constituent Assembly of Ecuador; "[w]e have to stress over and over again that human beings cannot live apart from Nature."⁶¹⁷ The Yasuni ITT trust is an attempt to go beyond the rhetoric of such claims by advancing a specific administrative and legal system that embodies a different notion of prosperity and progress. "Wealth and well-being cannot be defined any longer as the accumulation of material goods," as Acosta puts it.⁶¹⁸

⁶¹⁴ A related example is the collaboration between Native Americans and land trusts, often with the help of state governments, in re-introducing sustainable management of land, wildlife, and bodies of water, as described above in Subsection V.C.9.

⁶¹⁵ Ecuador Yasuni ITT Trust Fund: Terms of Reference (July 28, 2010), http://yasuni-itt.gob.ec/wp-content/uploads/tr_english.pdf. (accessed Feb. 25, 2011).

⁶¹⁶ An anthropocentric observation first made by Alexander von Humboldt, a German naturalist and geographer (1769-1859), but echoed by many political and corporate leaders in the centuries since. Cited by Acosta, *supra* note 95.

⁶¹⁷ *Id.*

⁶¹⁸ *Id.*

Acosta has called the Yasuni-ITT Initiative a new way to imagine a global commons of interdependent participants, and also a new way to re-align relationships among the industrialized nations and poorer nations. The richer countries of the global North “have a huge ecological debt to the world’s poorest countries,” he said, citing the history of colonialism and imperialism, and the \$90 billion in environmental damage that British Petroleum, Chevron, and Texaco has inflicted on Peruvian lands.⁶¹⁹ The Yasuni-ITT Initiative, he said, offered a practical scheme for exercising “co-responsibility in protecting the Amazon.”⁶²⁰ That is why the tagline for the proposal (which still is seeking full funding) is “An opportunity to rethink the world.”

The Yasuni-ITT initiative gives us a glimpse into how we might construct a multilateral system of interconnected “nested commons” at different scales (local, provincial, national, regional, global). But there are others, such as the Global Innovation Commons of patent-free technologies having ecological value, the Earth Atmospheric Trust, and the Ocean Trust—all mentioned above.⁶²¹ The limited history of commons-based legal systems for Antarctica, the oceans, and space also provide some templates for future innovation.

One familiar legal principle that could be pressed into service to promote joint stewardship of global ecosystems is the public trust doctrine. In a series of lawsuits known as Atmospheric Trust Litigation, plaintiffs are seeking to force the U.S government to reduce carbon emissions into the atmosphere.⁶²² Under the public trust doctrine, the lawsuits argue, the State is “a sovereign trustee of natural resources with an organic fiduciary obligation to protect the atmosphere in order to ensure the survival and prosperity of present and future generations of citizen beneficiaries. Positioned along with other sovereigns, government is co-tenant of the atmosphere and therefore holds a correlative duty to prevent waste to the asset.”⁶²³ This is a significant legal claim because co-tenancy makes all nations, as sovereigns, jointly responsible for protecting a common asset, the atmosphere. As the lawsuit states, “[C]o-tenants have a right against other co-tenants for waste and for failure to pay necessary expenses [in protecting an asset].” Thus one nation could sue another for a breach of its fiduciary obligations under the public trust doctrine.

These are the types of legal innovations, by no means exhaustive, that must be pursued to establish interdependent governance. The first hurdle to overcome is the idea that we can avoid such governance.

⁶¹⁹ Remarks by Alberto Acosta at the International Commons Conference, Berlin, Germany, Nov. 2, 2011, as reported in David Bollier, *The International Commons Conference: An Interpretive Summary*, at 8-9, http://www.boell.de/downloads/economysocial/ICC_report--Bollier.pdf (accessed Aug. 8, 2011).

⁶²⁰ *Id.*

⁶²¹ See *supra* (and respectively) notes 544, 592, and 593 and accompanying texts.

⁶²² See *supra* note 556 and accompanying text.

⁶²³ Wood, *Atmospheric Trust Litigation*, *supra* note 571.

► ***Develop a scheme of nested and/or networked commons that can work dynamically together***

A central problem with existing international environmental and human rights law—the right to environment included—is its dependence on a territorially-based, consensual system of global governance in which rigid State sovereignties are empowered, essentially alone, to make the legal and political decisions about problems that international environmental and human rights law are supposed to solve. Another is that, however high-minded their rhetoric, these State sovereignties typically act tenaciously in their own self-interest, generally perceived in neoliberal economic terms, with little to no regard for the ecological and social needs of the wider community of which they are a part. If, however, our planet is to survive in a manner truly hospitable to life upon it, international environmental and human rights law—indeed, national and international law in general—must change. Law as a creature of sovereign hierarchies must adapt to a world of interdependent, interpenetrating networks, both ecological and social.

Over the past twenty years, the Internet has significantly dissolved institutional and geographic boundaries, making them far more porous, if not indefensible. This poses serious challenges to conventional forms of law, not just in terms of geographic control, but equally in terms of maintaining legitimacy and efficacy. Standard forms of law are often too remote and detached from on-the-ground moral, socioeconomic, political, and cultural realities, especially when seen against the many nimble Internet communities that have outflanked stodgy government bureaucracies and politicians (e.g., the Arab Spring, the WikiLeaks disclosures of U.S. government cables, etc.).

When law is controlled mostly by elite policymakers and administered through arcane and often corrupt legal systems even as open networks enable a divergent public narrative to emerge, citizens understandably become cynical about formal law. They are not truly agents of its creation and interpretation, even in nominal democracies. And when they do become engaged, perhaps as a result of crisis or demagoguery, there may not be vehicles for implementing government laws and policies. Professor Ostrom put it this way after winning her Nobel Prize: “I’m not denigrating that officials can do something very positive, but what we have ignored is what citizens can do, and the importance of real involvement by the people involved, as opposed to just having somebody in Washington or at a far, far distance, make a rule. How does that get all the way down to management of forests, fisheries, irrigation systems, etc.? So we have to look from the ground up.”⁶²⁴

A new system of multilateral ecological governance, therefore, must re-imagine the role of the State and multilateral institutions and their policy priorities. This requires the development of a new vision of societal “development” beyond maximum capital accumulation and economic growth. A vision of the “good life” beyond material acquisition and an economics of sufficiency must be developed. This will of course entail profound shifts in all aspects of life over many years, and realignments of international political relationships. As Ecuador’s Alberto Acosta has put it: “The

⁶²⁴ Press conference with Professor Elinor Ostrom at Indiana University, Oct. 12, 2009, following the announcement of her shared award of the 2009 Nobel Prize in Economic Sciences, carried live via satellite and stream lived on the Internet at <http://broadcast.iu.edu/ceremon/Nobel> (accessed Aug. 21, 2011).

impoverished and structurally excluded countries must, on one hand, try to find options for a decent and sustainable lifestyle, which do not represent a caricatured re-issue of the western way of life.”⁶²⁵ Acosta continued: “While, on the other hand, the ‘developed’ countries will have to solve the growing problems of international unfairness that they have caused and, particularly, incorporate criteria of sufficiency into their societies before attempting to support, at the expense of the rest of mankind, the logic of efficiency understood as permanent accumulate of material possessions.”⁶²⁶

The State must move from serving as the sovereign master of a closed, hierarchical system to the light-touch host of an open, diverse network. In other words, *there must be means for the agency of commoners at lower levels of governance to be expressed rapidly, dynamically and interactively at the higher macro-levels levels of law*. This capacity is important for the quality of information, the flexibility and speed of response, and the overall legitimacy of international governance, ecological and otherwise. A model for such transnational networked collaboration is the rapid response of health researchers and public health agencies to the outbreak of the SARS virus in 2002.⁶²⁷ Networked collaboration was widely seen as essential to the quick containment of an infectious disease that otherwise had catastrophic potential; one can only wish that such fierce cooperation could animate efforts to reduce carbon emissions into the atmosphere.

If online networks could knit together diverse commoners and make them a visible and coordinated political force in international legal fora, it becomes more possible to make law conform more closely to vernacular morality and practice, and to change the political climate for new initiatives. In the world of ecological design, there is a term to describe how natural phenomena at very different spatial scales interconnect. “Nature’s processes are inherently *scale linking*, for they intimately depend on the flow of energy and materials across scales,” write Sim van der Ryn and Stuart Cowan.⁶²⁸ “The waste oxygen from blue-green algae is absorbed by a blue whale, whose own waste carbon dioxide feeds an oak tree. Global cycles link organisms together in a highly effective recycling system crossing about seventeen tenfold jumps in scale, from a ten-billionth of a meter (the scale of photosynthesis) to ten thousand kilometers (the scale of the Earth itself).”⁶²⁹

⁶²⁵ Acosta, *supra* note 619.

⁶²⁶ *Id.*

⁶²⁷ During the SARS outbreak, the World Health Organization convened regular teleconference meetings that allowed more than a dozen national public health agencies and leading medical laboratories to share information with each other rapidly. This collaborative approach enabled medical authorities to identify the virus and develop diagnostic tests and treatment regimes in a matter of weeks, not months, as would have been required had national health systems worked independently of each other. For a case-study of this success, see DR. STEPHEN S. MORSE, INTERNATIONAL RELATIONS AND SECURITY NETWORK, SARS AND THE GLOBAL RISK OF INFECTIOUS DISEASES (2006), *also available at* http://kms1.isn.ethz.ch/serviceengine/Files/ISN/18142/ipublicationdocument_singledocument/42a87936-86b3-4e4b-94e1-bdbbccceb27c/en/casestudy_emerging_disease.pdf (accessed Aug. 31, 2011); *see also* Peter J. van Baalen & Paul C. van Fenema, *Instantiating Global Crisis Networks: The Case of SARS*, 47 DECISION SUPPORT SYSTEMS, no. 4, 277 (Nov. 2009).

⁶²⁸ RYN & COWAN, *supra* note 528, at 33.

⁶²⁹ *Id.*

Taken as a metaphor, if not a functional template, national and international law must devise new forms of scale linking to overcome the structural frictions and missing feedback loops that make existing institutions so ineffective. The Vernacular Law of commons at all levels needs to be integrated into the actual formulations of national international law. The obvious vehicle for re-imagining new types of scale-linked multilateral institutions is the Internet. While software platforms are just one channel among many in political relationships, they are also constitutive in the ways in which they can structure relationships, communication, and implementation. Properly designed platforms could enable the emergence of new voices and venues for consensus-building in multilateral governance. By allowing information and participation to flow from the bottom-up, from diverse levels and locations, the overall system of governance would be more capable of addressing the myriad, distributed complexities of ecosystem problems.⁶³⁰ The principles of polycentrism and subsidiarity could be designed into such a system.

Admittedly, what we propose is a general concept, not an implementation. But the virtue of such a system of networked multilateral governance is that it could help us get beyond the dysfunctional premises of the current system, provide new platforms for commoners to represent their ecological and human rights interests, and thereby help make governance more aligned with ecological (and social) needs.

► ***Human rights must be an integral aspect of multilateral ecological governance***

We have argued previously that human rights, both substantive and procedural, are an indispensable element in the governance of any one commons. Likewise they are necessary in the design and operation of multilateral ecological governance wherein the State, the Market, and the Commons work together to safeguard and enhance the ecosystems upon which all life depends. Indeed, international governance of the ecosystem complexities that now confront all of humankind cannot be solved without the flows of information and participation that human rights principles help assure.

Central to such governance, therefore, just as in the design and governance of individual commons, must be a commitment to all the values of human dignity as expressed in the Universal Declaration of Human Rights and the nine core international human rights conventions that have evolved from it or such of them as may be applicable.⁶³¹ Also central must be recognition and validation of the right to environment as traditionally (derivatively, autonomously) and expansively (procedurally) espoused, as applied to unborn future generations, and as represented in the entitlement of all persons to serve as trustee surrogates on behalf of the rights of Mother Nature. Likewise the multilateral design must recognize and validate our proposed right of everyone to commons- and rights-based ecological governance, and at all levels of social organization.

⁶³⁰ One vision of governance has been put forward by Christian Arnsperger in an essay, *Fostering New Governance Through Participatory Coordination and Communalism*, on P2P Foundation website, at http://p2pfoundation.net/Six_Framework_Conditions_for_Global_Systemic_Change (accessed Aug. 30, 2011)

⁶³¹ See *supra* notes 505 and 506 and accompanying texts.

This is not a matter merely of preference. It is a matter of necessity. Without rights, there is no guarantee of justice. Without *these* rights, there is no guarantee of environments that can sustain life on earth.

VI. Coda

We hope we have sketched a persuasive vision for commons- and rights-based ecological governance, one that can at least begin to get us beyond the impasse that conventional political and economic thinking have imposed. More to the point, we hope we have outlined a *practical pathway* for moving forward, one that addresses ecological (and social) problems in an integrated and effective way and thus responds realistically to the mounting calls for a paradigm shift that can help save our planet and life upon it.

Still, it remains unclear how exactly this vision might be made real. How might we begin to migrate from “here” to “there”? It may appear optimistic or naïve to expect that the State, already deeply indentured to the neoliberal Market order, would wish to help establish and maintain commons, let alone a vibrant Commons sector. Why would the guardians of the current State/Market wish to dismantle or modify the current system?

The answer is: they don’t. But as the folk wisdom says: “Nature always bats last.” Systems of governance that can no longer deliver on their cherished mythologies and flout Nature’s order have been known to disappear. At a certain point—sooner than later, we fervently hope—the merits of embracing the positive, constructive agenda of the Commons will be seen as more attractive than desperate attempts to salvage a profoundly flawed paradigm. The dysfunctionalities of existing systems of government and law cannot be denied, repressed, or finessed forever.

In the face of a global political economy that refuses to curb its material appetites and admit the reality of biophysical limits, it is no exaggeration to say that the fight for a new ecological governance system is tantamount to a fight for human survival. It comes as no surprise, therefore, that with ecosystems collapsing and economic woes deepening, public demands for systemic change will intensify. Even now, governments and international bodies realize that their future legitimacy will depend upon effective governance, social fairness, and popular trust, all of which are now in short supply.

It might be claimed that commons- and rights-based ecological governance is a utopian enterprise. But the reality is that it is the neoliberal project of ever-expanding consumption on a universal global scale that is the utopian, totalistic dream. It manifestly cannot fulfill its mythological vision of human progress through ubiquitous market activity. It simply demands more than Nature can deliver, and it inflicts too much social inequity and disruption in the process. The first step toward ecological sanity requires that we recognize our myriad ecological crises as symptoms of an unsustainable cultural, socioeconomic, and political worldview.

Our first aspiration, then, is that this essay may provoke a focused dialogue on the merits of a commons- and rights-based framework of ecological governance and the virtues of re-imagining the role of the State and Market as part of a new State/Market/Commons triarchy. We are especially interested in joining a dialogue with potential partners, whether

they be individual commoners, non-governmental organizations, governments, academies, faith-based institutions, or foundations. We have established the Commons Law Project for this very purpose: to help continue the needed dialogue and deliberation, to marshal resources, and to advance creative policy thinking and activism about the Commons, ecological survival, and human rights.

Shifting paradigms is never easy, especially when it implicates the many everyday elements of people's lives. In the course of human history, it is unlikely that *any* society, let alone all of humanity, has been forced to face as many complex, transformational challenges, in such a foreshortened period of time, as we do today. The shift to ecological wellness will entail epochal shifts in law, business practices, personal lifestyles, cultural attitudes, and, of course, worldviews about nature and humanity and governance institutions.

The way forward, therefore, must be "polychromatic," with multiple, eclectic nodes of transformational change. It will not be a centrally coordinated and implemented process, but one that is driven by countless players around the world, and in different resource domains, with different cultural perspectives. State Law must surely play a significant role in this transition and at all levels from local to global. The social change needed will require also active forms of Vernacular Law, working in tandem with supportive State Law whenever possible.

But in truth, though formal and informal legal arrangements created specifically to promote and protect the environment are indispensable components of a comprehensive strategy for the realization of commons- and rights-based ecological governance and the regeneration of the right to environment within it, they are by no means the only components—indeed, not even the most effective or important in many instances. As several times previously noted, the actualization of our vision for effective and just ecological governance will require broad and deep social change, and for this is needed far more than legal institutions and procedures. The road ahead will be not unlike the 19th Century struggle to abolish slavery and render it illegal, against the full weight of similarly twisted, powerfully contentious moral and economic worldviews. Abolitionist William Lloyd Garrison spoke of the necessity of dismantling the "higher than the Alps" ethical establishment of his day "brick by brick, and foot by foot, till it is reduced so low that it may be overturned without burying the nation in its ruins."⁶³² We must do the same with the present-day State/Market ideology that doggedly resists constraints upon the unfettered use of private property; and for this we must invoke all manner of non-violent strategy, extra-legal and quasi-legal as well as legal, including the active engagement of all manner of civil society everywhere.

Discounting revolutionary and other tumultuous times, history has shown that political cultures will absorb a new set of values and practices if they are allowed to engage in a cycle of peaceful activism structured to fulfill their high aspirations. Enacting a few laws is not enough; the entire gamut of what legal and political science scholars call policy- and decision-making functions must be put into play if, over time, a society is going to succeed at metabolizing the new worldview and ethos. Here, based on previous transformations in

⁶³² WILLIAM LLOYD GARRISON 54 (George M. Frederickson ed., 1968) *quoted in* RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE: A HISTORY OF ENVIRONMENTAL ETHICS* 212 (1989).

societal values, we outline a multifaceted typology of seven of these functions that modern society must undergo if it is to realize new forms of commons- and rights-based ecological governance—and in so doing, regenerate the human right to a clean and healthy environment. We do not presume that our catalogue reflects an always-precise, exclusive fit; it is intended, rather, to be heuristic, suggestive, *not* definitive—and a tool for plotting a course forward.

First there must be the means for *information-retrieval and dissemination*, so that research into Commons and State/Market ecological governance can be done. We must initiate and strengthen research methodologies (case studies, correlation studies, experimental studies, prototypes, etc.) and develop monitoring and surveillance systems that can assess the performance of different systems of ecological governance. There must also be curricular initiatives (from K-12 to college-level course to adult education), new mass-media programming and new sources of scientific and technical information made available to ecological commons.

Second, *the means to promote and advocate* commons- and rights-based ecological governance at all levels must be developed. These capacities certainly must be cultivated in the emerging Commons sector and in human rights and environmental advocacy circles. But they must also include new administrative, financial, and logistical support within such bodies as the U.N., U.N. Environment Programme, the International Labor Organization, the International Monetary Fund, the World Bank, the Office for the High Commissioner for Human Rights (OHCHR), the free trade agreements (FTAs), regional human rights systems and other relevant inter-governmental organizations (IGOs). There must be new forms of collaboration between the State and commons, nongovernmental organizations, and civil society actors, including private-sector lobbies. And the State itself must provide commoners with platforms and opportunities to learn from each other and to participate in State policy-making that affects their interests

A third function that must be addressed: *prescriptive initiatives* that identify and mandate life-sustaining natural resources and ecosystems as commons. State institutions, both national and international, must assist in the effective and humane management of such commons through regulations, legislation, and agreements, and through corporate and industry codes of cooperative conduct. In particular, they must support initiatives to establish a recognized human right to commons/rights-based ecological governance, and help to define or determine the precise meaning and intent of this right. More broadly, they must support all human and environmental rights prescriptions that support commons.

The *ability to invoke the law* to protect ecological commons is vital. Thus a fourth function entails the initiation, strengthening, and expansion of complaint procedures (including shareholder and tort actions) that can protect commons/rights-based ecological governance. NGOs must be competent to monitor the implementation of commons/rights-based principles and to challenge perceived violations. Commons and commoners must be able to access justice institutions to redress perceived State or Market violations of their rights.

The will to apply and enforce the law is a fifth function that is critical to the new paradigm of ecological governance. The State must ratify and enforce international law-

making instruments directed at establishing and protecting ecological commons and commons/rights-based ecological governance projects and systems. This requires new, strengthened, and/or expanded law enforcement mechanisms and procedures. Economic strategies should be fostered, such as consumer boycotts, economic embargoes, and trade sanctions in support of commons/rights-based ecological governance projects and systems.

The *termination of regressive public policies and laws* is a sixth important function. Thus, legal systems that impede the establishment or effective operation of commons/rights-based ecological governance should be repealed. Private contractual and other arrangements that interfere with commons/rights-based ecological governance should be intercepted and cancelled.

Finally, seventh function that must be developed are systems for *appraisal and recommendation of Commons policies*. Managements must be capable of comparing the short- and long-term effectiveness of Commons versus State/Market governance in protecting natural resources and ecosystems. The means for reforming misguided or unsuccessful practices must be available, along with the ability to make concrete recommendations for enhanced performance. In the new triarchical governance of State, Market, and Commons, those people who need to understand the theory and practice of commons in general (ecological or otherwise)—e.g., families, teachers, legal and public health specialists, environmental and human rights experts, corporate and labor personnel, governmental and intergovernmental officials, and others—must be provided the means for education and training about commons- and rights-based ecological governance. At the broadest, transformational level, however, strategies must be developed—for households, workplaces, public media, and other venues—to transform the myths and values that shape how people think and act relative to the natural environment, and toward those who seek to protect and enhance it (ecological commoners, for example). We need new types of broad and deep education to promote stewardship of Nature rather than simply economic and technological mastery of it.

In sum, a strategy worthy of commons/rights-based ecological governance requires the instigation of a multitude of mechanisms and techniques—from systematic research and documentation, to education and schooling, to domestic legislative programs, to national and international enforcement measures, to long-term initiatives of social transformation—and on all fronts at all levels, from the most local to the most global. It also must engage all elements of society (individuals, families, communities, academic institutions, trade unions, business enterprises, faith-based groups, non-governmental organizations and associations, government agencies, intergovernmental organizations). Perhaps most importantly, it must always proceed self-consciously and proactively, and with imagination and energy, if the rights that attend ecological well-being are to be secured.

Human rights have been a persistent theme throughout this essay, and for good reason. They provide a strategic pathway to the regeneration of the right to environment in the Commons renaissance and an indispensable element in the governance of any one commons. Also, human rights have a deep and powerful role to play in advancing a new, more integrated vision of ecological stewardship, sustainable economics, and commons-based governance. We made these critical points in Section III.C, above. Shifting the ecological governance paradigm via human rights, we argued, unleashes the power to assert

maximum claims on society and valorizes environmental well-being as indispensable to human dignity. It challenges statist and elitist agendas, and carries with it a sense of legal and political entitlement on the part of the rights-holder and duties of implementation on the part of the rights-protector. The commons paradigm itself has deep roots in human rights as a body of legal and moral advocacy—while also bringing forward additional advantages: a venerable body of historical law, a distinct analytic and popular discourse, and a rich inventory of functional models. We believe this is an attractive framework for re-imagining the world and thereby addressing myriad ecological challenges more effectively.

Invariably, however, there will be skeptics and naysayers who question the credibility not only of the vision we have outlined, but, as well, the rights-based strategy we advocate. However manifest the virtues of a human rights approach to the matter of ecological governance, conceptual barriers and psycho-social resistance not infrequently thwart human rights agendas—testimony, of course, to the potential of human rights law and policy in the first place.

Five arguments against invoking human rights are conspicuous: the claimed immutability of state sovereignty, the claimed sanctity of corporate sovereignty, the claimed irrelevance of public international law to private actors, the claimed indeterminacy of human rights, and the claimed absence of human rights theory. In our highly interdependent and interpenetrating world, it is hard to take the first three of these claims seriously, especially when applied to the global environment. They therefore need not be contested here.⁶³³ The last two, however, are less obviously fallacious and thus merit at least brief rebuttal.

Rebutting the Claimed Indeterminacy of Human Rights

Some scholars criticize the language of human rights as lacking conceptual clarity, noting that there are conflicting schools of thought as to what constitutes a right and how to define human rights.⁶³⁴ For this reason, they claim the concept to be “indeterminate” and therefore distrust its capacity to address “real world” social ills effectively or at all.⁶³⁵ They observe that there are many unresolved theoretical questions about rights: “whether the individual is the only bearer of rights” (in contradistinction to such entities as families; groups of common ethnicity, religion, or language; communities; and nations); “whether rights are to be regarded as . . . constraints on goal-seeking action or as parts of a goal that is to be promoted”; “whether rights—thought of as justified entitlements—are correlated with

⁶³³ But see Burns H Weston & Mark B. Teerink, *Rethinking Child Labor: A Multifaceted Human Rights Problem*, in CHILD LABOR AND HUMAN RIGHTS: MAKING CHILDREN MATTER 3, 12-15 (Burns H. Weston ed., 2005), where these claims are contested at some length (albeit, obviously, in the context of combating child labor).

⁶³⁴ For an insightful account, with discussion of other views, see ALAN GEWIRTH, *THE COMMUNITY OF RIGHTS* (1996).

⁶³⁵ The concept of indeterminacy has been much discussed in several modern approaches to language and literature, contending that the meaning of a text never can be fully determined because its author’s original intention is subject to the unfixed nature of the author’s makeup and experience, because it is the consequence of the particular cultural and social background of the reader, and because language itself generates its own meaning over time. This contention, Michael Freeman points out, is prominent particularly when it comes to concepts such as “human rights”—abstract, oftentimes ambiguous, and therefore “a challenge” to the philosophical discipline of conceptual analysis, which “can seem remote from the experiences of human beings.” FREEMAN, *supra* note 311, at 2.

duties”; and, not least, “what rights are understood to be rights to.”⁶³⁶ A certain level of well-being? A certain access to certain resources in one’s life pursuit? A certain quality of opportunity in that pursuit? The relatively recent debate over “Asian values” and its underlying tension between cultural relativist and universalist approaches to human rights make clear that all this questioning is no idle intellectual chatter.⁶³⁷ It is very much present in the political arena as well, and thus serves as a possible explanation for resistance to a rights-base approach to ecological governance.

The claimed indeterminacy of “human rights,” however, is less problematic than sometimes perceived. The core of the human rights concept is as well defined and clearly articulated as any social or legal norm, a fact proven by the numerous widely accepted human rights norms increasingly enforced.⁶³⁸ Moreover, even conceding that unresolved theoretical issues relating to human rights remain, this fact does not of itself detract from the broadest and most effective actualization of the fundamental principles and values on which there is virtually universal agreement—for example, the human right to a clean and healthy environment.

Thus, while the concept or language of rights, like most legal language, sometimes suffers ambiguity, it is not to be discarded in the struggle for a clean and healthy environment simply for this reason. Rather, as with any human—incomplete and imperfect—system, one must make use of those elements that are established and effective while working to improve and clarify those that remain vague or incomplete, just as we do all other legal norms as a matter of course all the time.

Rebutting the Claimed Absence of Human Rights Theory

Perhaps the most confounding of the alleged unresolved theoretical issues about human rights is the claimed absence of a theory to justify human rights in the first place.⁶³⁹ In the presence of ongoing philosophical and political controversy about the existence, nature, and application of human rights in a multicultural world, a world in which Christian natural law justifications for human rights are now widely deemed suspect or obsolete, one must exercise caution when adopting a human rights approach to social policy lest one be accused of cultural imperialism. It is not enough to say, argues Michael Freeman, that human beings possess human rights simply for being human, as does, for example, the 1993 Vienna Declaration and Programme of Action, which proclaims that “[h]uman rights and

⁶³⁶ Martha C. Nussbaum, *Capabilities, Human Rights, and the Universal Declaration*, in WESTON & MARKS 25, 26–27, *supra* note 317.

⁶³⁷ On cultural relativism versus universalism in human rights law and policy, see Burns H. Weston, *The Universality of Human Rights in a Multicultural World: Toward Respectful Decision-Making*, in WESTON & MARKS, *supra* note 317, at 65; _____, *Human Rights and Nation-Building in Cross-Cultural Settings*, 60 ME. L. REV.1 (2008).

⁶³⁸ See, e.g., Burns H. Weston, *Human Rights*, ENCYCLOPÆDIA BRITANNICA (15th ed., 2005 printing), available at Britannica Online Encyclopædia, <http://www.britannica.com/EBchecked/topic/275840/human-rights> (accessed June 1, 2011).

⁶³⁹ The late philosopher Richard Rorty, for one, contended that there is no theoretical basis for human rights on the grounds that there is no theoretical basis for any belief. See Richard Rorty, *Human Rights, Rationality, and Sentimentality*, in ON HUMAN RIGHTS 116, 126 (Stephen Shute & Susan Hurley eds., 1993).

fundamental freedoms are the birthright of all human beings.”⁶⁴⁰ Writes Freeman: “It is not clear why one has *any* rights simply because one is a human being.”⁶⁴¹

We do not disagree. But neither do we accept that there exists no theory to justify human rights in our secular times, ergo no theory to justify a human rights approach to the environment and its governance. The concept of human rights is or can be firmly established on sound theoretical grounds.

First, there is the proposition, formally proclaimed in both the 1948 Universal Declaration of Human Rights and the yet more widely adopted—and revalidating—1993 Vienna Declaration, that human rights derive from “the inherent dignity . . . of all members of the human family”⁶⁴² or, alternatively, from “the dignity and worth inherent in the human person.”⁶⁴³ While this proposition informs us little more than the assertion that human rights extend to human beings simply for being human, it does point the way. Unless one subscribes to nihilism, it is the human being’s inherent dignity and worth that justifies human rights. Of course, the obvious question remains: how does one determine the human being’s inherent dignity and worth?

Noteworthy in this regard is the work of Martha Nussbaum and Amartya Sen on “capabilities and human functioning.” In their search for a theory that answers at least some of the questions raised by rights talk, they have pioneered the language of “human capabilities” as a way to speak about, and act upon, what fundamentally is required to be human—“life,” “bodily health,” “bodily integrity,” “senses, imagination, and thought,” “emotions,” “affiliation” (“friendship” and “respect”), “other species,” “play,” and, not least, “control over one’s environment” (“political” and “material”).⁶⁴⁴ While Nussbaum and Sen do not reject the concept of human rights as such⁶⁴⁵—indeed, they see it working hand in hand with their concept of capabilities, jointly signaling the central goals of public policy—they propose emphasis on human capabilities as the theoretical means by which to restore “the obligation of result” and thereby move the discussion from the abstract to the concrete

⁶⁴⁰ Vienna Declaration and Programme of Action of the World Conference on Human Rights, U.N. Doc. A/Conf.157/24. At20-46 (June 5, 1993), *reprinted in* 32 ILM 1661 (1993) and III BASIC DOCUMENTS III.V.2, *supra* note 9 [hereinafter “Vienna Declaration”].

⁶⁴¹ FREEMAN, *supra* note 311, at 60-61 (emphasis in original).

⁶⁴² UDHR, *supra* note 151, at prml., para. 1.

⁶⁴³ Vienna Declaration, *supra* note 640.

⁶⁴⁴ See Nussbaum, *supra* note 636. See also Amartya K. Sen, *Equality of What?* (Stanford University, Tanner Lectures on Human Values, 1979). For another early advocacy of a capabilities approach to human rights, see Bernard Williams, *The Standard of Living: Interests and Capabilities*, in AMARTYA K. SEN, *THE STANDARD OF LIVING* 94 (Tanner Lectures on Human Values, Geoffrey Hawthorn ed., 1989). See also *THE QUALITY OF LIFE* (Martha Nussbaum & Amartya K. Sen eds., 1993).

⁶⁴⁵ In her essay linking the capabilities approach with the 1948 UDHR, Nussbaum acknowledges that the language of rights retains an important place in public discourse, providing a normative basis for discussion, emphasizing the importance and basic role of the entitlements in question and people’s choice and autonomy, and establishing the parameters of basic agreement. See Nussbaum, *supra* note 636, at 59.

without having to rely on controversial transempirical metaphysics to cut across human differences.⁶⁴⁶

A theory of human rights can be found, we believe, in the idea of necessity driven by enlightened self-interest. A just society, whether operating across space or time or both, and which presumably all but the most miscreant want, requires rights as a matter of necessity to guarantee its possibility. And to ensure its probability (or “compliance pull”), it must be defined by values freely and equally chosen by its members in rational contemplation of the self-interest—*their* self-interest—that inheres in mutually tolerant and reciprocally forbearing attitudes and behaviors. But in the “nasty, brutish, and short” Hobbesian world in which most humans believe they live, enlightened self-interest can greatly motivate respect for others. It is, indeed, sufficient in this regard, for this is the lesson that many evolutionary scientists are coming to embrace—that “our ability to cooperate goes hand in hand with succeeding in the struggle to survive . . .,” as Martin Nowak puts it.⁶⁴⁷ Darwinian competition notwithstanding, we are more likely to survive and thrive if we honor the values that underwrite human rights law and policy in its most inclusive aspect. What goes around comes around, as they say, and a public order of human dignity marked by the widest possible shaping and sharing of basic human rights, without discriminations irrelevant to merit, is a society more likely to flourish—or, more to the point given our present circumstances, survive.

One further justificatory note. Such a society can be validated by intellectual constructs in an imagined Lockean “initial position”—as in the Rawlsian “veil of ignorance” construct, for example, akin to Immanuel Kant’s “categorical imperative.”⁶⁴⁸ But we believe a preferable, more straight-forward approach would be simply to postulate a just society as an empirically measurable, verifiable preference in the here and now—i.e., *sans* contrivance—when it is inclusively determined in the inclusive interest.

In any event, however enunciated or substantiated, the necessity idea comes down to a kind of share-and-share-alike Golden Rule, as intimated above, anchored in respect and driven by self-interest as well as empathetic altruism by all humans, present and future, to satisfy the fundamental requirements of socioeconomic and political justice—the minimum conditions of what it means to be human, the minimum conditions for a life of human dignity in a clean, healthy, ecologically balanced, and sustainable environment. In the words of former U.N. High Commissioner for Human Rights Louise Arbour, “[h]uman rights are

⁶⁴⁶ This line of theoretical argument, interestingly, parallels the very reason why the Commons is empowering in contemporary times: it enables individuals, as members of communities, to participate in the fulfillment of their own, most fundamental human needs and capabilities, at a time in history when a Leviathan State/Market has arrogated such functions to itself, often to the detriment of commoners. This is not to say that the modern Market and State do not need to play important (but different) roles; it is to say that human existence and the Commons are more intimately bound up with each other as a matter of historical experience, and that re-validating the Commons is more likely to empower basic human capabilities and human functioning, if not grander, more elevated human aspirations as well.

⁶⁴⁷ MARTIN A. NOWAK (WITH ROGER HIGHFIELD), *SUPER COOPERATORS: ALTRUISM, EVOLUTION AND WHY WE NEED EACH OTHER TO SUCCEED* xvi (2011).

⁶⁴⁸ See JOHN RAWLS, *A THEORY OF JUSTICE* §§ 1-4, 9, 11-17, 20-30, 33-35, 39-40 (1971).

not a utopian ideal. They embody an international consensus on the minimum conditions for a life of dignity.”⁶⁴⁹

On final analysis, then, there is no good theoretical reason why a human rights strategy should not be pursued and, as we have seen, many good theoretical reasons why it should. There remains, to be sure, the haunting question of whether the present world order has the political will to attend to the important work of enacting and enforcing laws and policies that can help save Planet Earth. But that key issue is one of moral and political choice; and that choice is, to us, obvious. When joined to the struggle against contaminating, degrading, and otherwise abusive treatment of the natural environment, human rights can be a uniquely powerful tool in achieving as well as informing ecological governance in the common interest.

We come, then, to the end—and the beginning. If we are truly going to regenerate the human right to a clean, healthy, ecologically balanced, and sustainable environment, we must gird ourselves for the ambitious task of imagining alternative futures; mobilizing new energies and commitments; deconstructing archaic institutions while building new ones; devising new public policies and legal mechanisms; cultivating new understandings of human rights, economics, and commons; and, perhaps most daunting of all, reconsidering some deeply rooted prejudices about governance and human nature. An appropriate beginning is to (1) endorse Bolivia’s Nature’s Rights initiative at the United Nations; (2) press for an equivalent initiative recognizing the ecological rights of future generations; (3) press for a U.N. Security Council or General Assembly resolution declaring the atmosphere a global commons; and (4) press for a U.N. General Assembly resolution declaring the procedural human right of everyone to commons- and rights-based ecological governance. But time is short. We cannot delay. Seamus Heaney says it just right:

Two sides to every question, yes, yes, yes . . .
But every now and then, just weighing in
Is what it must come down to . . .⁶⁵⁰

⁶⁴⁹ Statement by Ms. Louise Arbour, High Commissioner for Human Rights, to the Open-Ended Working Group Established by the Commission on Human Rights to Consider Options Regarding the Elaboration of an Optional Protocol to the International Covenant on Economic, Social, and Cultural Rights, Jan. 14, 2005, <http://www.unhchr.ch/huricane/hurricane.nsf/newsroom> (accessed Aug. 31, 2011).

⁶⁵⁰ *Weighing In*, in SEAMUS HEANEY, *THE SPIRIT LEVEL* 22–23 (1996).

Commons Law Project Draft UNGA Declaration Recognizing the Procedural Human Right of Everyone to Commons- and Rights-Based Ecological Governance*

The General Assembly,

Reaffirming that “Everyone is entitled to a social and international order in which the rights and freedoms set forth in [the Universal Declaration of Human Rights] can be fully realized”¹ and that this order necessarily includes a clean and healthy environment, without which human beings could not fully enjoy their rights;

Recalling the principles set forth in the Declaration of the United Nations Conference on the Human Environment², primarily that “Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being,”³ that “[the environment] must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.”⁴

Firmly convinced of the scientific validity of global climate change and its underlying human causes as borne out by the findings of the United Nations Intergovernmental Panel on Climate Change;

Alarmed by the disastrous impact climate change is having and will continue to have on the environment, including the loss of land, forests, freshwater systems, and biodiversity and the increasing frequency of severe weather patterns including intensified storms, prolonged draught and monsoons, and climate shifts;

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¹ Universal Declaration of Human Rights (UDHR), art. 28, G.A. Res. 217A, at 71, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (10 Dec 1948), *reprinted in* III INTERNATIONAL LAW AND WORLD ORDER: BASIC DOCUMENTS at III.A.3 (Burns H. Weston & Jonathan C. Carlson eds., Titles I-V, 1994–) (hereinafter “BASIC DOCUMENTS” for all five titles).

² Stockholm Declaration of the United Nations Conference on the Human Environment (16 June 1972), U.N. Doc A/CONF.48/14/Rev.1 at 3, *available at* <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503>; *reprinted in* V BASIC DOCUMENTS, *supra* note 1, at V.B.3.

³ *Id.*, Principle 1.

⁴ *Id.*, Principle 2.

Further alarmed by the hardships that climate change creates for humankind, including famine, displacement, diseases, and violence.

Disturbed by the occurrence of non-climate-change environmental degradation, such as rapid loss of biodiversity, contamination of food and water supplies, improper disposal of hazardous wastes, and continued reliance on polluting non-renewable energy sources;

Discouraged by the lack of international consensus for the principles embodied in the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, as well as the failure of these instruments to protect adequately the natural environment.

Dismayed by the long history of State—and non-State exploitation and destruction of nature;

Convinced that a new system, capable of recognizing nature's worth and embrace greater human participation, must be developed if nature is to be protected;

Recognizing that for millennia, human communities have successfully and sustainably managed the use of nature through commons-based government.

Recalling that the world community has already recognized Antarctica, the deep sea bed, and outer space as within “the interest of all mankind” or part of the “common heritage” in the 1959 Antarctic Treaty, the 1982 UN Convention on the Law of the Sea, and the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies;

Noting that new informal commons have emerged in today's world, most notably the use of social media to disseminate knowledge via the internet;

Recalling and reaffirming that the 2000 Earth Charter,⁵ created by a global consultation process and endorsed by organizations representing millions of people around the world, calls for “a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace” and affirms it to be “imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations”;

Recalling and reaffirming the 1998 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters,⁶ which recognizes the central importance of public participation in setting environmental policy and calls on party states to take every reasonable step to foster such participation;

⁵ Adopted at The Hague by the Earth Charter Commission, 29 June 2000, available from the Earth Charter Commission at <http://www.earthcharter.org>, *reprinted in* V BASIC DOCUMENTS, *supra* note 1, at V.K.2a.

⁶ UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 25 June 1998, 2161 U.N.T.S 447, U.N.Doc. ECE/CEP/43, *reprinted in* 38 I.L.M. 517 (1999) and V BASIC DOCUMENTS, *supra* note 1, at V.B.18; *also available at* <http://live.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>.

Encouraged by the potential of communities of varying sizes and kind to assert their commitments to manage shared resources, allocate them fairly and preserve them unimpaired for present and future generations—as a means to responsibly govern ecological resources;

Solemnly adopts the following Universal Declaration on the Procedural Human Right of Everyone to Commons- and Rights-based Ecological Governance:

Article 1 (General Principles)

1. The natural environment is the common heritage of mankind, belonging to all humanity, both present and future.
2. A commons-based regime for ecological governance must adequately account for social and cultural norms, the aesthetic value of the environment, the fragile and complex interdependence of living ecosystems, the interests of future generations, and the ultimate dependence of humankind on the environment for health and survival.
3. In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
4. Social cooperation, trust and reciprocation are essential to the success of a commons-based governance regime. To this end, the operational, collective, and constitutional rules of ecological governance must be fair and respectful.
5. Human rights should form an integral part of commons-based ecological governance in order to secure a life of dignity for all and mutual respect for individual and cultural self-determination. The right to commons- and rights-based ecological governance is interdependent with other human rights including, *inter alia*, the rights to life, health, privacy, equality and nondiscrimination, habitat, and culture. As a result, human rights should form an explicit, integral part of commons-based ecological-governance regimes.
6. The maintenance and preservation of environmental resources must take precedence over their exploitation.
7. Property rights that grant use of natural resources to individuals or groups of individuals are not absolute, and must conform to the broader principles of commons-based ecological governance.
8. Ecological governance should be based on the principle of local control and subsidiarity.
9. Everyone in every generation is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status, including the international status of the territory in which a person lives, be it independent, trust, non-self-governing, or other limited sovereignty.

Article 2 (Rights)

1. All individuals, alone or in association with others, are entitled to informed participation in decisions regarding their natural environment.
2. The right to be informed includes:
 - a. The right to prior notice of proposed decisions or policies that may significantly affect their environment;
 - b. The right to clear and complete information on the ecological impact of activities that may significantly affect their environment;
 - c. The right to effective access to legislative, administrative, judicial, or other proceedings during which decisions that may have significant ecological impact are under discussion;
 - d. The right of individuals, for themselves or as surrogates for future generations, to seek judicial redress for violations of their right to information.
3. The right to participation includes:
 - a. When practical, the right of everyone to participate directly in decisions affecting their environment;
 - b. In the absence of a practical opportunity for direct participation, the right of everyone to adequate representation of their interests in ecological governance;
 - c. The right of to consistent and meaningful access to their representative decision-makers;
 - d. The right to a timely and accessible public hearing before decisions are made that may have a significant effect on the environment;
 - e. The right of individuals, for themselves or as surrogates for future generations, to seek judicial redress for violations of their right to participation.

Article 3 (Duties of Private Actors)

1. “Private actors” include human beings and legal entities including companies, corporations, and non-profit organizations.
2. Private actors have duties to:
 - a. assess fully the environmental impact of any proposed activity;
 - b. respond in a timely manner to reasonable requests for information relating to the ecological impact of their activities;

- c. cooperate fully with government officials, authorities, and regulations in providing environmental information, public participation in ecological governance, and access to justice in environmental matters.
 - d. give due compensation to fellow commoners for their extracting of resources from or introducing of pollutants to the natural environment.
3. Private actors acting as representatives in ecological governance have a duty to remain accessible to their constituents, and to carefully assess and give voice to their interests.

Article 4 (Duties of States)

1. States, and all state agents at the appropriate level shall:
- a. adopt the administrative, legislative, judicial, and other measures necessary to implement effectively the rights in this Universal Declaration including the assessment and publication of the environmental impact of any activity that may significantly impact the environment, including outside their jurisdiction;
 - b. assist the public in seeking access to information, facilitating participation in ecological governance, and ensure justice in environmental matters;
 - c. promote environmental education and awareness among the public;
 - d. ensure that individuals exercising their rights are not penalized, persecuted, or harassed;
 - e. require that all public authorities compile and regularly update environmental information relevant to their functions, and that such information is accessible to the public through procedures that are timely, clear, understandable, and available without undue financial burden;
 - f. ensure that, in the event of any imminent threat to human health or the environment, whether caused by human activities or due to natural causes, all information which could enable the public to take measures to prevent or mitigate the harm caused by the threat and is held by a public authority is disseminated immediately and without delay to members of the public who may be affected.
 - g. cooperate with other States, competent intergovernmental organizations, and civil society in respect of areas beyond national jurisdiction.

Article 5 (Duties of the U.N. and Other Intergovernmental Organizations)

1. The organs and specialized agencies of the United Nations system and other intergovernmental organizations shall contribute to the full realization of the procedural right to commons- and rights-based ecological governance through the mobilization of financial cooperation, technical assistance, and other ways and means of promoting and protecting this right.

2. The General Assembly, in accordance with Article 22 of the Charter of the United Nations, shall establish and actively support a subsidiary organ empowered to refer cases to the International Court of Justice for compulsory advisory opinions on all matters pertinent to the right to a clean, healthy, ecologically balanced, and sustainable environment.
3. In fulfillment of this Universal Declaration, the United Nations shall use its good offices to establish an Ecological Governance Oversight Council charged with responsibility to safeguard the procedural right of everyone to commons- and rights-based ecological governance for present and future generations. This Council shall be granted legal standing before the Human Rights Council and all other relevant UN bodies, both treaty and non-treaty, on all matters pertinent to the procedural right to commons- and rights-based ecological governance.

Draft
Addendum
to
Regenerating the Human Right to a Clean and Healthy Environment
in the Commons Renaissance*
by
Burns H Weston & David Bollier

The Status of the Human Right to a Clean and Healthy Environment

There are at least three ways in which the human right to environment is today officially recognized juridically:

- as an entitlement derived from other recognized rights, centering primarily on the substantive rights to life, to health, and to respect for private and family life, but embracing occasionally other perceived surrogate rights as well—e.g., habitat, property, livelihood, culture, dignity, equality or nondiscrimination, and sleep;
- as an entitlement autonomous unto itself, dependent on no more than its own recognition and increasingly favored over the derivative approach insofar as national constitutional and regional treaty prescriptions proclaiming such a right are evidence; and
- as a cluster of procedural entitlements generated from a “reformulation and expansion of existing human rights and duties” (akin to the derivative substantive rights noted first above) and commonly referred to as “procedural environmental rights.”

We consider each of these three approaches in the pages following.

A. As Derived from Other Recognized Rights

Most human rights treaties, declarations, and other international instruments do not reference the natural environment explicitly. This is so mainly because the majority of them came into being before the environment—especially the global environment—became widely understood to require universally concerted attention and protection.¹ As a result, the human right to a clean and healthy

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¹ For example, while the first Earth Day took place in the United States in 1970, the first *international* Earth Day

environment has developed over time as an entitlement derived from other already recognized rights before it became desirable and fashionable, as in recent years, nationally as well as internationally, to champion the right to a clean and healthy environment as an autonomous right, complete unto itself.²

Predominant are the internationally recognized human rights to life and to health—frequently conjoined in environmental settings. As the U.N. General Assembly presciently “determined” over three decades ago, in a resolution grandly titled “Historical responsibility of States for the preservation of nature for present and future generations,” the preservation of nature is “a prerequisite for the normal life of man.”³ Similarly, but more recently, in the 1997 case of the *Gabcíkovo-Nagymaros Project* (Hung. v. Slov.), the International Court of Justice observed that “[t]he protection of the environment is . . . a vital part of contemporary human rights doctrine, for it is a *sine qua non* for numerous human rights such as the right to health and the right to life itself.”⁴

As implied, however, the right to a clean and healthy environment is not derived exclusively from the rights to life and health. Indeed, in many decisions—diplomatic, parliamentary, judicial, administrative—these substantive rights are themselves commonly cited in conjunction with the right to respect for private and family life in the same breath.

1. The Environment and the Substantive Rights to Life, to Health, and to Respect for Private and Family Life

The right to life is arguably the most fundamental and uncontested of international human rights. As stated by the Human Rights Committee, commenting on Article 6 of the 1966 International Covenant on Civil and Political Rights (ICCPR),⁵ the right to life is “the supreme right from which no derogation is permitted even in times of public emergency. . . . It is basic to all human rights.”⁶

did not come to pass until 1990, and then at the hands of an individual citizen, not a government or intergovernmental organization. See http://en.wikipedia.org/wiki/Earth_Day (accessed Nov. 28, 2010).

² For helpful, extended elucidation, see Dinah Shelton, *Human Rights and the Environment: What Specific Environmental Rights Have Been Recognized?*, 35 DEN. J. INT’L L. & POL’Y 129 (2006).

³ G.A. Res. 35/8, at 15, U.N. GAOR, 35th Sess., Supp. No. 48, U.N. Doc. A/35/48 (Oct. 30, 1980).

⁴ 1997 I.C.J. 7, 88 (Sept. 25) (separate opinion of Judge and Vice-President Weeramantry). Judge Weeramantry added: “It is scarcely necessary to elaborate on this, as damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments.” *Id.* at 91-92.

⁵ ICCPR, Dec. 16, 1966, 993 UNTS 171, reprinted in III INTERNATIONAL LAW AND WORLD ORDER: BASIC DOCUMENTS at III.A.3 (Burns H. Weston & Jonathan C. Carlson eds., Titles I-V, 1994–) (hereinafter “BASIC DOCUMENTS” for all five titles). Article 6(1) provides: “Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.” The Committee, established pursuant to ICCPR Articles 29-47, monitors the ICCPR’s implementation.

⁶ Human Rights Committee, *General Comment No. 14: Nuclear weapons and the right to life (Art.6)*, [http://www.unhchr.ch/tbs/doc.nsf/\(Symbol\)/9c882008fd898da7c12563ed004a3b08?Opendocument](http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/9c882008fd898da7c12563ed004a3b08?Opendocument) (accessed Nov. 28, 2010).

The right to life was first recognized by Article 3 of the 1948 Universal Declaration of Human Rights (UDHR),⁷ which states that “everyone has the right to life, liberty, and security of person,” a principle that continues across a wide spectrum of international human rights instruments—global and regional, binding and non-binding. The right is now widely understood to protect not only against the arbitrary deprivation of life as provided in ICCPR Article 6 expressly,⁸ but as well, explicitly and implicitly, against “other aspects” of the right⁹—e.g., the death penalty; denial to children of water, food, and medicine; abuse of the disabled, the imperilment of refugees; genocide and war crimes.¹⁰

Much the same can be said of the right to health, likewise high among international law’s human rights priorities. Beginning with UDHR Article 25(1), which proclaims that “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services,” it, too, is reaffirmed among a broad array of instruments (again global and regional, binding and non-binding). The most prominent among them is, arguably, the 1966 International Covenant on Economic, Social and

⁷ UDHR, Dec. 10, 1948, G.A. Res. 217A, at 71, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (1948), *reprinted in* I BASIC DOCUMENTS, *supra* note 5, at III.A.1.

⁸ *Id.*

⁹ Quoting from the website of the Office of the U.N. High Commissioner for Human Rights (OHCHR) at <http://www.universalhumanrightsindex.org/hrsearch/search.do?accessType=category&lang=en&categories=48&orderBy=country&clusterCategory=category&annoType=observations> (accessed Nov. 28, 2010).

¹⁰ In addition to UDHR art. 3 and ICCPR art 6, see, for example, Second Optional Protocol to the International Covenant on Civil and Political Rights, Dec. 15, 1989, G.A. Res. 44/128, at 206, U.N. GAOR, 44th Sess., Supp. No. 49, at 206, U.N. Doc. A/44/49 (Dec. 15, 1989), *reprinted in* 29 INT’L LEGAL MATS. 1464 (1990) [hereinafter “I.L.M.”] and III BASIC DOCUMENTS, *supra* note 5, at III.A.5;; Convention on the Rights of the Child [hereinafter “CRC”], arts. 23(1), 37, Nov. 20, 1989, 1577 UNTS 3, *reprinted in* 28 I.L.M. 1448 (1989) and III BASIC DOCUMENTS, at III.D.5; International Convention on the Protection and Promotion of the Rights and Dignity of Persons with Disabilities, art. 10, G.A. Res. 61/106, at 65, U.N. GAOR, 61st Sess., Supp. No. 49, U.N. Doc. A/61/49 (Dec. 13, 2006), *reprinted in* 46 I.L.M. 443 (2007) and III BASIC DOCUMENTS, at III.E.4; Convention Relating to the Status of Refugees, art.33, July 28, 1951, 189 UNTS 150, *reprinted in* III BASIC DOCUMENTS, at III.G.4; Convention on the Prevention and Punishment of the Crime of Genocide, Dec. 9, 1948, 78 UNTS 277, *reprinted in* III BASIC DOCUMENTS, at III.J.1; Rome Statute of the International Criminal Court, July 17, 1998, U.N. Doc. A/CONF.183/9, *reprinted in* 37 I.L.M. 999 (1998) and I BASIC DOCUMENTS, at I.H.13.

For comparable embrace of the right to life regionally, see, for example, European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR), art. 2, Nov. 4, 1950, 213 UNTS 221, CETS. 5, *reprinted in* III BASIC DOCUMENTS, *supra* note 5, at III.B.8; Protocol (No 6) to the ECHR Concerning the Abolition of the Death Penalty, Apr. 28, 1983, 1496 UNTS 281, CETS 114, *reprinted in* 22 I.L.M. 538 (1983) and III BASIC DOCUMENTS, at III.B.8f; Charter of Fundamental Rights of the European Union, art. 2, Dec. 7, 2000, C364 OJEC. 8, 2007 OJ (C303)1, *reprinted in* 40 I.L.M. 266 (2001) and III BASIC DOCUMENTS, at III.B.19, now incorporated into the Consolidated Version of the Treaty on the Functioning of the European Union, Dec. 1, 2009, 2010 OJ (C 83) 1, *reprinted in* I BASIC DOCUMENTS, at I.B.13h; American Declaration of the Rights and Duties of Man (ADRDM), art. 1, Mar 30-May 2, 1948, OAS Res. XXX. OAS Off. Rec. OEA/Ser.L/V/1.4Rev., *reprinted in* III BASIC DOCUMENTS, at III.B.27; American Convention Human Rights, art.1, Nov. 22, 1969, 1144 UNTS 123, O.A.S.T.S. 36, OAS Off. Rec. OEA/Ser.L/V/II.23, Doc. 21, Rev. 6, *reprinted in* 9 I.L.M. 99 (1970) and III BASIC DOCUMENTS, at III.B.32; African Charter on Human and People’s Rights (“Banjul Charter”), art. 4, June 27, 1981, OAU Doc. CAB/LEG/67/3/Rev. 5, *reprinted in* 21 I.L.M. 58 (1982) and III BASIC DOCUMENTS, at III.B.1; African Charter on the Rights and Welfare of the Child, art. 5, July 11, 1990, OAU Doc. CAB/LEG/24.9/49, *reprinted in* III BASIC DOCUMENTS, at III.B.3.

Cultural Rights (ICESCR). “The States Parties to the present Covenant,” the ICESCR stipulates broadly, “recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”¹¹ In its General Comment 14 of August 11, 2000, the Committee on Economic, Social and Cultural Rights, charged to oversee the implementation of the ICESCR, identified this right to embrace “a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinates of health, such as . . . a healthy environment.”¹²

These texts and others like them affirming the rights to life and/or health, it is clear, are rich with interpretative opportunity. As evidenced by U.N. General Assembly Resolution 35/8 and the *Gabcikovo-Nagymaros Project* case quoted above,¹³ they make possible, among other things, the now widespread legal judgment that environmental harms that threaten or negate basic human life and health should be and in fact are recognized to fall within the scope of these two rights. “It is scarcely necessary to elaborate on this,” the World Court stated further in *Gabcikovo-Nagymaros*, “as damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments.”¹⁴ Surely these 1980 and 1997 pronouncements, it may be surmised, were influenced by the earlier, game-changing 1972 Stockholm Declaration, which made the linkage between the rights to life and health and the environment explicit for the first time.¹⁵ “Both aspects of man’s environment, the natural and the man-made,” it proclaims, “are essential to his well-being and to the enjoyment of basic human rights—even the right to life itself.”¹⁶ “Man,” it continues, “has the fundamental right to freedom, equality, and adequate conditions of life, in an environment of a quality that permits a life of dignity and

¹¹ ICESCR, Dec. 16, 1966, 993 UNTS 3, art. 12(1), *reprinted in* III BASIC DOCUMENTS, *supra* note 5, at III.A.2; *see also* the Universal Declaration on the Eradication of Hunger and Malnutrition, para. 1, Nov. 16, 1974, U.N. Doc. E/CONF.65/20 (1974), *reprinted in* III BASIC DOCUMENTS, at III.N.1; International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), art. 5(3), Dec. 21, 1965, 660 UNTS 195, *reprinted in* III BASIC DOCUMENTS III.I.1; Convention on the Elimination of All Forms of Discrimination against Women, arts. 11(1)(f) & 12(1), Dec. 18, 1979, 1249 UNTS 13, *reprinted in* 19 I.L.M. 33 (1980) and III BASIC DOCUMENTS, at III.C.12; CRC, *supra* note 10, art. 24; International Convention on the Protection and Promotion of the Rights and Dignity of Persons with Disabilities, *supra* note 10, art. 25..

For comparable embrace of the right to health regionally, *see*, for example, the 1981 Banjul Charter, *supra* note 10, art. 4; Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, art. 10, Nov. 17, 1988, O.A.S.T.S. *reprinted in* 28 I.L.M. 156 (1989) and III BASIC DOCUMENTS, at III.B.32a; African Charter on the Rights and Welfare of the Child, *supra* note 10, art. 14; July 11, 1990 European Social Charter (Revised), arts. 3, 7, 8, 11, 23, May 3, 1996, CETS. 163, *reprinted in* III BASIC DOCUMENTS, at III.B.10.

¹² U.N. Econ. & Soc. Council (ECOSOC), *General Comment 14, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights*, para. 4, U.N. Doc. E/C.12/2000/4 (Aug. 11, 2000).

¹³ *See supra* text accompanying notes 3-4.

¹⁴ *Gabcikovo-Nagymaros Project*, 1997 I.C.J. 7, 88-89 (Sept. 25).

¹⁵ In the instance of the 1997 *Gabcikovo-Nagymaros* case, possibly also by the World Charter for Nature adopted by the U.N. General Assembly Oct. 28, 1982. *See* G.A. Res. 37/7 (Annex), at 17, U.N. GAOR, 37th Sess., Supp. No. 51, U.N. Doc. A/37/51 (1983), *reprinted in* 22 I.L.M. 455 (1983) and V BASIC DOCUMENTS, *supra* note 5, at V.B.11.

¹⁶ Stockholm Declaration of the United Nations Conference on the Human Environment, para. 1, (June 16, 1972), U.N. Doc. A/CONF.48/14/Rev.1 at 3, U.N. Doc. A/CONF.48/14 at 2-65 and Corr 1, 1972 UNJURID. Y.B. 319, *reprinted in* V BASIC DOCUMENTS, *supra* note 5, at V.B.3 [hereinafter “Stockholm Declaration”].

well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.”¹⁷ Not surprisingly, then, though for the first time in a human rights treaty, the 1989 Convention on the Rights of the Child requires its state parties to take into consideration “the dangers and risks of environmental pollution” when implementing a child’s right to health through the application of technology and the provision of nutritious foods and drinking-water.¹⁸ Many of the international agreements directed at curbing the illicit movement and discharge of toxic substances also draw upon the Stockholm Declaration and state explicitly their purpose: to protect human life and health.¹⁹ This purpose is shared strongly by the former U.N. Commission on Human Rights which, in addition to appointing, in 1995, a Special Rapporteur to assess the human rights impact of such environmental hazards,²⁰ unequivocally proclaimed in more than one resolution on the subject that these hazards “constitute a serious threat to the human rights to life, health and a sound environment for everyone.”²¹ More recently, the successor U.N. Human Rights Council has adopted resolutions expressing concern that climate change bears serious implications for the “full” or “effective enjoyment of human rights.”²²

It is against this jurisprudential backdrop that, in addition to the 1997 World Court decision in the *Gabcikovo-Nagymaros Project* case cited and quoted above,²³ human rights treaty bodies, tribunals, and commissions, especially at the regional level, have confirmed the human rights/environment linkage with increasing resolve in recent years. Sometimes this linkage is made via the right to life exclusively, but more often it is with reference to the right to life, the right to health, and, in time, the right to respect for private and family life in combination or coextensively.

On the global plane, two major treaty bodies have been active in this regard: the Committee on Economic, Social and Cultural Rights (CESR), charged to oversee the implementation of the

¹⁷ *Id.*, Principle 1.

¹⁸ CRC, *supra* note 10, art. 24(2)(c).

¹⁹ *See, e.g.*, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 UNTS 57, *reprinted in* 26 I.L.M. 649 (1989) and V BASIC DOCUMENTS, *supra* note 5, at V.I.11; Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 1046 UNTS 120, *reprinted in* V Basic Documents, at V.I.7; Convention on the Transboundary Effects of Industrial Accidents, Mar. 17, 1992, 2105 UNTS 457, *reprinted in* V BASIC DOCUMENTS, at V.I.14a.

²⁰ *See* U.N. Commission on Human Rights, Resolution 1995/81 (Adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights), para. 7, E/CN.4/RES/1995/81.

²¹ *E.g.*, U.N. Commission on Human Rights Resolution 1999/23 (Adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights), prmb., E/CN.4/RES/1999/81; Commission on Human Rights Resolution 2000/72 (Adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights), prmb., E/CN.4/RES/2000/72.

²² *See, e.g.*, U.N. Human Rights Council Resolution 7/23 (on Human Rights and Climate Change, Mar. 28, 2008), http://www2.ohchr.org/english/issues/climatechange/docs/Resolution_7_23.pdf (accessed Nov. 28, 2010); U.N. Human Rights Council Resolution 10/4 (Human Rights and Climate Change, Mar. 25, 2009), http://www2.ohchr.org/english/issues/climatechange/docs/Resolution_104.pdf (accessed Nov. 28, 2010).

²³ *See supra* text accompanying notes 3-4 and 13-14.

ICESCR,²⁴ principally by means of a periodic reporting system; and the Human Rights Committee (HRC), with equivalent responsibility for the ICCPR²⁵ but, unlike the ICESCR, operating like an adjudicative tribunal. In this setting, the CESR has on numerous occasions received reports from the ICESCR's states parties relative to environmental issues perceived to implicate rights prescribed in the Covenant.²⁶ Yet, though the CESR sometimes proactively asks for specific environmental information where human rights harms may be involved (a stratagem that recently has been enhanced by follow-up procedures to facilitate compliance),²⁷ it is primarily the HRC that has produced the most informative, albeit limited, jurisprudence. This can be seen first, in the HRC's 1984 decision in *E.H.P. v. Canada*²⁸ (shortly after the ICCPR's entry into force); and second, in the 1996 case of *Bordes and Teneharo v. France*.²⁹ Accuracy compels acknowledging, however, that these two decisions did not confirm the right-to-life/environment linkage in so many words, but only implicitly. However, we see this bridge crossed unequivocally in the many cases decided in the European (Strasbourg), Inter-American, and African human rights systems, in addition to the World Court's *Gabcikovo-Nagymaros Project* decision.

²⁴ The Committee was established pursuant to ECOSOC Resolution 1985/17 of May 28, 1985 to perform the monitoring functions assigned to the U.N. Economic and Social Council (ECOSOC) in Part IV of the ICESCR, *supra* note 11.

²⁵ *Supra* note 11, Pt. IV.

²⁶ Noteworthy are, for example, the "periodic reports" submitted to the CESR by Ukraine transmitting information on the environmental consequences of the 1986 Chernobyl disaster relative to ICESCR Article 12 (right to physical and mental health). *See, e.g.*, Economic and Social Council (ECOSOC), *Implementation of the International Covenant on Economic, Social and Cultural Rights: Fourth periodic reports submitted by States parties under Articles 16 and 17 of the Covenant on the basis of the programmes referred to in Economic and Social Council resolution 1988/4, Addendum* (Ukraine), E/C.12/4/Add.2 (Mar. 21, 2000), § III (art. 12), at 50.

²⁷ *See* Committee on Economic, Social and Cultural Rights, *Working Methods: Overview of the present working methods of the Committee*, Pt. III, [http://www2.ohchr.org/english/bodies/cescr/working methods.htm](http://www2.ohchr.org/english/bodies/cescr/working%20methods.htm) (accessed Nov. 28, 2010).

²⁸ Communication No. 67/1980, U.N. Doc. CCPR/C/OP/1, para. 8 (1984), 2 Selected Decisions of the Human Rights Committee 20 (1990). While declaring the communication (i.e., petition) inadmissible for failure to exhaust local remedies, the HRC found that the storage of radioactive waste in close proximity to the homes of a group of Canadian citizens "raises serious issues with regard to the obligation of States parties [to the 1966 ICCPR] to protect human life (article 6 (1))." *Id.* For the text of Article 6(1), see *supra* text accompanying note 6.

²⁹ *Mrs. Vaihere Bordes and Mr. John Temeharo v. France*, Communication No. 645/1995, U.N. Doc. CCPR/C/57/D/645/1995 (1996), *also available at* <http://www1.umn.edu/humanrts/undocs/html/DEC64557.htm> (accessed Nov. 28, 2010). Bordes and Temeharo, Tahitian citizens, claimed that France's underground nuclear tests on the nearby South Pacific Mururoa and Fangataufa atolls had resulted in "a violation of their right to life and their right to their family life" under ICCPR Articles 6(1) and 17(1), *id.* at para. 5.5. For the text of Article 6(1), see *supra* text accompanying note 6. ICCPR Article 17(1) provides in part that "[n]o one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence . . ." The HRC dismissed the case on the procedural grounds that the complainants did not substantiate that they were "victims" within the meaning of Article 1 of the Optional Protocol to the ICCPR, Dec. 16, 1966, 999 UNTS 171, 999 UNTS 302, *reprinted in* 6 I.L.M. 383 (1967) and III BASIC DOCUMENTS, *supra* note 5, at III.A.4 (providing in part that "[a] State Party to the Covenant that becomes a Party to the present Protocol recognizes the competence of the Committee to receive and consider communications from individuals subject to its jurisdiction who claim to be victims of a violation by that State Party of any of the rights set forth in the Covenant"). However, at para. 5.9 of its decision, the Committee nevertheless reiterated its observation in its General Comment 14 that "it is evident that the designing, testing, manufacture, possession and deployment of nuclear weapons are among the greatest threats to the right to life which confront mankind [sic] today." (emphasis added in the original).

The European Human Rights System

Before the 1980s when concern for the natural environment began first to take hold internationally, the former European Commission of Human Rights and the European Court of Human Rights were deterred from making the right-to-life/environment connection by the historically understandable omission of any mention of the environment in the 1950 European Convention on Human Rights and Fundamental Freedoms (ECHR)³⁰ and its protocols.³¹ Thereafter, however, not only the right to life, but also, even more so, the right to respect for private and family life became a part of the European Court's dominant repertoire when assessing claims seeking protection from environmental harms under the ECHR.

Numerous cases decided by the Court, variously responding to claims of violation of ECHR Articles 2 (right to life) and 8 (respect for private and family life), are illustrative—for example, the oft-cited cases of *Öneryıldız v. Turkey* (art. 2)³² and *López Ostra v. Spain* (art. 8).³³ So also are a

³⁰ *Supra* note 10.

³¹ According to DANIEL I. GARCÍA SAN JOSÉ, ENVIRONMENTAL PROTECTION AND THE EUROPEAN CONVENTION ON HUMAN RIGHTS 7 (Council of Europe Pub., 2005), two early applications seeking protection from environmental harms under the Convention were declared inadmissible by the former European Commission on Human Rights for being “incompatible *ratione materiae* with the Convention” were *Dr. S. v. F.R.G.*, App. No. 715/60 (unpublished, Aug. 5, 1969) and *X & Y v. F.R.G.*, App. No. 7407/76 (13 May 1976), 5 Eur. Comm’n H.R. Dec. & Rep. 161 (May 13, 1976).

³² App. No. 48939/99, Eur. Ct. H.R. 2004-XII (2005), 41 Eur. H.R. Rep. 20 (Nov. 30, 2004). The first right to life case brought to the European Court relative to an environmental harm, the Court held in *Öneryıldız* that the Turkish government was responsible for deaths caused by a methane explosion at a municipal rubbish disposal site, primarily on the grounds that there had been a violation of Article 2 of the European Convention (*supra* note 10) in both “its substantive aspect [unanimously agreed to], on account of the lack of appropriate steps to prevent the accidental death of nine of the applicant’s close relatives”; and “its procedural aspect [by 16 to 1 vote], on account of the lack of adequate protection by law safeguarding the right to life” (*supra* note 10, para. 71). Article 2 “must be construed,” the Court explained, “as applying in the context of any activity, whether public or not, in which the right to life may be at stake, and a fortiori in the case of industrial activities, which by their very nature are dangerous, such as the operation of waste-collection sites . . .” (*id.*). Interestingly, the Court referenced Article 56 of the 1982 Turkish Constitution (as amended), providing for the autonomous environmental entitlement that “[e]veryone has the right to live in a healthy, balanced environment” and that “[i]t is the duty of the state and citizens to improve the natural environment, and to prevent environmental pollution” (*supra* para 52 and regarding which see discussion *infra* at 174). Also interesting is that it referenced the 1993 European Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (CETS No. 150) and the 1998 European Convention on the Protection of the Environment through Criminal Law (CETS No. 172), neither of which, the Court acknowledged, had been signed or ratified by a majority of the member states of the Council of Europe, Turkey included, at the time—indeed, they have yet to enter into force even at this writing. One may conclude from these invocations that the European Court’s commitment to a clean and healthy environment is strong, to protect and preserve the right to life at least.

³³ App. No. 16798/90, Eur. Ct. H.R. (ser. A), No. 303-C (1995), 20 Eur. H.R. Rep. 277 (Dec. 9, 1994). In *López Ostra*, the European Court’s first major Article 8 decision and preceding *Öneryıldız* by ten years, the applicants, Spanish nationals and residents, complained that the negligent operation of a tannery waste treatment facility a few meters from their home violated their right to respect for their private and family life guaranteed by Article 8. The facility began operations in 1988 without a license from the municipality as required by law. Subsequently, a malfunction at the facility caused a release of “gas fumes, pestilential smells and contamination” that resulted in health problems and a nuisance to the applicants such that they were forced to sell their house and move from the area. Important for present purposes is that the Court ruled for the applicants and thereby validated their claim under Article 8 because the Spanish authorities had failed to take steps to protect the applicant and her family from the environmental problems caused by the facility

growing number of cases that have followed or been guided by these precedents.³⁴ There also are number of cases that note the right-to-life/environment connection, but the applicants have *not* been victorious. These include cases in which the Court has dismissed or rejected the claim for failure to exhaust local remedies, to substantiate victim standing, or to establish a firm causal link, disproportionate harm, impermissible risk, or an abuse of a state's discretionary authority ("margin of appreciation").³⁵ In none of these cases since the 1980s has the Court challenged the underlying causes of action based on the right to life or respect for private and family life. Indeed, they are implicit in the typically procedural grounds for dismissal or rejection. On the basis of these cases alone, the right to a clean and healthy environment may be understood to be accepted as law, however implicitly, in the European human rights system.

and because "severe environmental pollution [can] affect individuals' well-being and prevent them from enjoying their homes in such a way as to affect their private and family life adversely, without, however, seriously endangering their health" (*id.*, para. 51). Also important is that the Court found the government to have exceeded its "margin of appreciation" in the delicate task of "striking a fair balance between the interest of the town's economic well-being—that of having a waste-treatment plant—and the applicant's effective enjoyment of her right to respect for her home and her private and family life" (*id.*, para. 58).

³⁴ For a case following *Öneryıldız*, but arising from deaths caused by a natural disaster (mudslide) rather than human activity, see *Budayeva and Others vs. Russia* Others, App. No. 15339/02, <http://cmiskp.echr.coe.int/tkp197/view.asp?item=1&portal=hbkm&action=html&highlight=Budayeva&sessionid=78977336&skin=hudoc-en> (Mar. 20, 2008); see also *Öçkan and Others v. Turkey*, App. No. 46771/99, <http://cmiskp.echr.coe.int/tkp197/view.asp?item=1&portal=hbkm&action=html&highlight=%D6%E7kan%20%7C%20Others%20%7C%2046771/99&sessionid=78977447&skin=hudoc-en> (Mar. 28, 2006) (available in French only).

For a case similar to and following *López Ostra*, see *Giacomelli v. Italy*, App. No. 59909, Eur. Ct. H.R. 2006 (2007), 45 Eur. H.R. Rep.38 (Nov. 2, 2006). For other cases following *López Ostra*, see *Moreno Gómez v. Spain*, App. No. 4143/02], Eur. Ct. H.R. 633 (Nov. 16, 2004); *Fadeyeva v. Russia*, App. No. 55723/00, Eur. Ct. H. R. 2005-IV (2007), 45 Eur. H.R. Rep. 10 (Nov. 30, 2005); *Ledyayeva v. Russia*, App. Nos. 53157/99, 53247/99, 53695/00 & 56850/00, <http://cmiskp.echr.coe.int/tkp197/view.asp?item=1&portal=hbkm&action=html&highlight=Ledyayeva&sessionid=78977336&skin=hudoc-en> (Oct 10, 2005), reprinted in 25 Hum. Rts. L. J. 108 (2004), available also in *Russian at* http://www.supcourt.ru/vs-court_detale.php?id=1961 (accessed Nov. 28, 2010); *Öçkan and Others* (2006), *supra*; *Tatar v. Romania*, App. No. 67021/01, <http://cmiskp.echr.coe.int/tkp197/portal.asp?sessionSimilar=78977336&skin=hudoc-en&action=similar&portal=hbkm&Item=2&similar=frenchjudgement> (Jan. 27, 2009) (available in French only); see also *Guerra v. Italy*, App. No. 14967/89, Eur. Ct. H.R. 1998-I (1998), 26 Eur. H. R. Rep. 357 (Feb. 19, 1998) wherein the European Court ruled that because it found a violation under Article 8, there was no need to consider an additional claim under Article 2 (right to life). To like effect, see *Taskin and Others v. Turkey*, App. No. 46117/99, 2004-X Eur. Ct. H. R. 621, 42 Eur. H.R. Rep. 50 (Nov. 10, 2004) wherein the Court ruled that because it found a violation under Article 8 and 6.1 (right to a fair hearing), there was no need to consider an additional claim under Articles 2 and 13 (right to an effective remedy). For a *López Ostra* precursor by 16 years, see *Arrondelle v. United Kingdom*, App. No. 7889/77, 19 Eur. Comm'n H.R. Dec. & Rep. 186 (1980); see also cases cited in note 59, *infra*.

³⁵ See, e.g., *Baggs v. United Kingdom*, App. No. 9310/81, 44 Eur. Comm'n H.R. Dec. & Rep. 13 (Oct. 16, 1985); *Powell & Raynor v. United Kingdom*, App. No. 9310/81, 12 Eur. Ct. H.R. 355 (ser. A) (1990); *Hatton and Others v. United Kingdom*, App. No. 36022/97, Eur. Ct. H.R. 2003-VIII, 34 Eur. H. R. Rep. 1 (July 8, 2003); *Kyrtatos v. Greece* (2003), App. No. 41666/98, Eur. Ct. H.R. 2003-VI (2005) 40 Eur. H. R. Rep. 16 (May 22, 2003); *Borysewicz v. Poland*, App. No. 71146/01 (Jan. 10, 2008); *Fägerskiöld v. Sweden*, App. No. 37664/04 (Mar. 25, 2008); *Leon and Agnieszka Kania v. Poland*, App. No. 12605/03, <http://cmiskp.echr.coe.int/tkp197/view.asp?item=1&portal=hbkm&action=html&highlight=Leon%20|%20Agnieszka%20|%20Kania%20|%20v.%20|%20Poland&sessionid=78978536&skin=hudoc-en> (Jul. 21, 2009).

One case before the European Committee on Social Rights (established to monitor the European Social Charter³⁶) relative to the right to health (or, more precisely, “the right to protection of health”) confirms this conclusion. In *Marangopoulos Foundation for Human Rights v. Greece*, responding to a 2005 complaint alleging violations of the ESC’s right to health provisions (Article 11) stemming from environmentally hazardous lignite mining operations, the Committee, in 2006, held, by 9 votes to 1, “that Greece has not managed to strike a reasonable balance between the interests of persons living in the lignite mining areas and the general interest, and finds that there thus has been a violation of Article 11 §§1, 2 and 3 of the Charter [right to protection of health].”³⁷ A significant element of this ruling is that the Committee saw fit to pass judgment on the Greek government’s lackluster response to its Kyoto Protocol obligations though this was not required to reach the judgment that it did. It thus sent a clear message that, in future cases, it is likely to take a quite liberal view of the environmentally based claims that may be brought to it, at least in relation to the right to protection of health.

The Inter-American Human Rights System

The bridge between environmental harm and the rights to life and health has been crossed in the inter-American human rights system so far successfully in four cases. Each involved the lives and well-being of indigenous peoples: three before the Inter-American Commission on Human Rights (IACHR) —its 1985 case of *Yanomami v. Brazil*;³⁸ its 1997 Report on the Situation of Human Rights in Ecuador;³⁹ and its 2004 decision in *Maya Indigenous Community of the Toledo District v.*

³⁶ *Supra* note 11.

³⁷ Emphasizing the right-to-health/environment link in particular detail, the Committee found: (1) the Greek National Action Plan for greenhouse gas emissions in the framework of the Kyoto Protocol to be “limited and have little dissuasive effect” and (2) the initiatives of the public power corporation operating the Greek lignite mines to adapt plant and mining equipment to the “best available techniques” to have been “slow.” It also found (3) that the Greek authorities “[did] not apply . . . satisfactorily” domestic legislation concerning information about and public participation in the procedure for approving environmental criteria for projects and activities; (4) that the Greek government “[did] not provide sufficiently” precise information to amount to a valid education policy for persons living in lignite mining areas”; and (5) that “very little [was] done” to organise systematic epidemiological monitoring of those concerned and that “no morbidity studies [were] carried out.” The Committee quoted Resolution CM/ResChS(2008)1 of the Committee of Ministers of the Council of Europe adopted Jan. 16 , 2008 at the 1015th meeting of the Ministers' Deputies, <https://wcd.coe.int/ViewDoc.jsp?id=1235523&Site=CM&BackColorInternet=9999CC&BackColorIntranet=FFBB55&BackColorLogged=FFAC75> (accessed Nov. 28, 2010). The resolution incorporates and endorses the CESR’s decision on the merits of December 6, 2006 (http://www.coe.int/t/dghl/monitoring/social_charter/Complaints/CC30Meritsen.pdf), transmitted by the CESR to the Committee of Ministers the same day.

³⁸ Case 7615, Inter-Am. C.H.R., Report No. 12/85, OEA/ Ser.L/ V/II.66, doc. 10, rev.1 (1985). In this case, the IACHR found that, by reason of Brazil’s “failure . . . to take timely and effective measures in behalf of the Yanomami Indians” in the construction of the Northern Circumferential Highway across territory “occupied for ages beyond memory by the Yanomami Indians,” it brought about an invasion “by highway construction workers, geologists, mining prospectors, and farm workers desiring to settle in that territory” that resulted in loss of habitat, disease, even bloodshed. In so doing, said the Commission, approximately two decades *before* the European human rights system first admitted environmental injury into the protective custody of the right to life and the right to health, Brazil violated “the right to life, liberty, and personal security (Article I) . . . and the right to the preservation of health and to well-being (Article XI)” of the Yanomami people, referencing rights recognized in the American Declaration of the Rights and Duties of Man. In the same breath, it found a violation also of the right to residence and movement (Article VIII).

³⁹ Report on the Situation of Human Rights in Ecuador, Inter-Am. C. H. R., OEA/Ser.L/V/II.96, doc. 10 rev.1, at ch. VIII (1997). Reporting on the human rights situation of some 500,000 indigenous peoples in Ecuador’s interior (known as the Oriente), the IACHR observed that “severe environmental pollution” resulting from decades of

*Belize*⁴⁰—and one before the Inter-American Court relative to multiple rights in addition to the rights to life and health, the 2001 case of *The Mayagna (Sumo) Awas Tingni Community v. Nicaragua*.⁴¹ In one such case before the Commission and involving the human rights impact of climate change, the case of the *Inuit v. United States*, the bridge has yet to be successfully crossed.⁴²

It is of course arguable that the four processed cases are of limited general utility because they involve indigenous peoples and their essentially unique (though admirable) identity with, and commitment to, the natural environment, and the world community's growing deference to their

developmental activities, mostly of oil drilling concessionaires (Texaco and Ecuador's state-run Petroecuador primarily) who dumped close to 16 million gallons of oil and 20 billion gallons of petroleum waste into roughly 17,000 acres of pristine rainforest, had so despoiled the Oriente environment as to threaten the physical and cultural lives of the indigenous inhabitants of the area, in violation of their internationally as well as constitutionally guaranteed rights to life and health:

The Commission recognizes that the right to development implies that each state has the freedom to exploit its natural resources, including through the granting of concessions and acceptance of international investment. However, the Commission considers that the absence of regulation, inappropriate regulation, or a lack of supervision in the application of extant norms may create serious problems with respect to the environment which translate into violations of human rights protected by the . . . American Convention on Human Rights [which] is premised on the principle that rights inhere in the individual simply by virtue of being human. Respect for the inherent dignity of the person is the principle which underlies the fundamental protections of the right to life and to preservation of physical well-being. Conditions of severe environmental pollution which may cause serious physical illness, impairment and suffering on the part of the local populace are inconsistent with the right to be respected as a human being. *Id.*

⁴⁰ Case 12.053, Inter-Am. C.H.R., Report No. 40/04, OEA/Ser.L/V/II.122 Doc. 5 rev. 1, at 727 (2004). In this case, the IACHR found that, among other infractions, logging and oil concessions granted by the Government of Belize without “meaningful consultation” with the Maya people “violated the right to property enshrined in Article XXIII of the American Declaration to the detriment of the Maya people” and violations of the right to life under ADRDM Article I and the right to health and well-being under Article XI subsumed therein. *Id.* at para. 156.

⁴¹ Inter-Am. Ct. H.R., (Ser. C), No. 79 (Aug. 31, 2001). In this case, the Inter-American Court held that the Government of Nicaragua, for having ignored and rejected the territorial claim of the indigenous community and granted a logging concession within its traditional land without consulting the Community (in a manner similar to what took place in the 2004 Maya Indigenous Community case described in note 40, *supra*) breached a combination of articles enshrined in the American Convention on Human Rights (*supra* note 11), including Articles 4 (Right to Life), 11 (Right to Privacy), and 17 (Rights of the Family).

⁴² In December 2005, Ms. Sheila Watt-Cloutier (an Inuk woman and Chair of the Inuit Circumpolar Conference or ICC), on behalf of herself, sixty-two other named individuals, and all Inuit of the Arctic regions of the United States and Canada affected by the impacts of climate change, filed with the IACHR a petition requesting the Commission's assistance in obtaining relief “from human rights violations resulting from the impacts of global warming and climate change caused by acts and omissions of the United States.” In addition to other claimed violations of international law by the United States, the Petition alleged breaches of the rights to life, health, family life, and other rights proclaimed in the 1948 American Declaration (*supra* note 10), originally adopted as a legally non-binding instrument but today considered a source of legal obligation for member states of the Organization of American States, including the United States. The IACHR rejected the petition without prejudice in November 2006. In January 2007, the ICC requested a hearing with the IACHR to assist the Commission in exploring and better understanding the relationship between global warming and human rights. This hearing was granted, and took place in March 2007. The IACHR has not issued a report since that hearing. For the text of the petition, see http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf (accessed Sept. 24, 2011); for transcripts of relevant testimony at the hearing, see http://www.ciel.org/Climate/IACHR_Inuit_5Mar07.html.

special rights to cultural, socioeconomic, and political self-determination.⁴³ However, to so argue would require rationalizing the 2007 Inter-American Court of Human Rights decision in *Case of the Saramaka People v. Suriname*.⁴⁴ Although the Court was not asked to rule on the rights to life and health, it nonetheless spelled out standards it considered mandatory to ensure economic development friendly to the human rights of the indigenous people involved. The Court did not cite the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, adopted pursuant to the Convention on Biological Diversity,⁴⁵ but the standards it issued paralleled them. The Bonn guidelines are applicable to indigenous and non-indigenous populations alike. In any event, as evidenced by the decisions rendered in the European human rights system, in cases having nothing to do with indigenous peoples, the legal judgment that the rights to life and/or health are fundamentally dependent on a clean and health environment is manifest.

The African Human Rights System

The African human rights system is unique among the regional human rights systems in that its governing instrument, the 1981 African (or Banjul) Charter on Human and Peoples' Rights⁴⁶ was the first human rights treaty to embrace both first and second generation rights and to include, in Article 24, an autonomous right to a "general satisfactory environment."⁴⁷ When given the chance, therefore, the commission and a later court established to oversee the Charter's implementation, are conceptually freer than their two regional counterparts to extend human rights protection to environmental claims.

Being the youngest of the three regional systems, however, the experience of the African system is more limited. Indeed, to our best knowledge, it has ventured into the environmental rights realm in only one instance at this writing. In that one instance, however, in a landmark case factually reminiscent of the environmentally devastating oil company operations in Ecuador's Oriente interior noted above,⁴⁸ the Banjul Charter was comprehensively applied.

⁴³ See, e.g., ILO Convention (No 169) Concerning Indigenous and Tribal Peoples in Independent Countries, June 27, 1989, 2 ILO Conventions & Recommendations 1436 (1989), ILO Off. Bull. 59 (1989), *reprinted in* 28 I.L.M. 1382 (1989) and III Basic Documents, *supra* note 5, at III.F.2; United Nations Declaration on the Rights of Indigenous Peoples, GA Res 61/295, at 15, U.N. GAOR 61st Sess, Supp. No. 49, vol. III, U.N. Doc A/61/49 (Sept. 13, 2007), *reprinted in* 46 I.L.M. 1013 (2007) and III BASIC DOCUMENTS, *supra* note 5, at III.F.5.

⁴⁴ 2007 Inter-Am. Ct. H.R., Ser. C, No. 172 (Nov. 28, 2007).

⁴⁵ Convention on Biological Diversity, June 5, 1992, 1760 UNTS 79, *reprinted in* 31 I.L.M. 818 (1992) and V BASIC DOCUMENTS, *supra* note 5, at V.H.22, also available at <http://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf> (accessed Nov. 28, 2010). We are indebted to Professor Dinah Shelton for this insight in *Human Rights and Environment: Past, Present, and Future Linkages and the Value of a Declaration* 13-14 (unpublished draft paper to the UNEP-OHCHR High-Level Meeting on the New Future of Human Rights and Environment: Moving the Global Agenda Forward, Nairobi, Nov. 30-Dec. 1, 2009), <http://www.unep.org/environmentalgovernance/LinkClick.aspx?fileticket=vmjUL305Ho%3d&tabid=2004&language=en-US> (accessed Nov. 28, 2010).

⁴⁶ *Supra* note 10.

⁴⁷ Article 24 provides in full as follows: "All peoples shall have the right to a general satisfactory environment favorable to their development."

⁴⁸ See *supra* note 39.

The landmark case of *The Social and Economic Rights Action Center and the Center for Economic and Social Rights v. Nigeria*, decided by the African Commission on Human and Peoples' Rights in 2001,⁴⁹ concerned the decades-long operations of the Shell Petroleum Development Corporation in consort with the Nigerian National Petroleum Development Company that resulted in the severe spoliation of the environment of Ogoniland in the Niger River Delta region of southeast Nigeria on the Gulf of Guinea. The Nigerian government, a military government at the time, had not enforced its environmental laws or otherwise curbed the consortium's destructive oil practices (oil spills, the dumping of industrial waste into the Niger River Delta, the flaring of natural gas into the atmosphere—all reminiscent of the environmentally devastating oil company operations in Ecuador's Oriente interior noted above.⁵⁰ For these acts, the government was found to have disregarded its duty "to respect, protect, promote, and fulfill"⁵¹ the obligations it assumed when it became party to the Charter. It was therefore held to have violated a number of the human rights guaranteed the native Ogoni people in the Banjul Charter, including the right to life (art.4),⁵² the right to health (art. 16), and the right to a "generally satisfactory environment" (art. 24).⁵³ "These rights," the Commission continued, "recognise the importance of a clean and safe environment that is closely linked to economic and social rights in so far as the environment affects the quality of life and safety of the individual."⁵⁴ That the Banjul Charter itself took this broad view played an important role, of

⁴⁹ African Commission on Human and Peoples' Rights, Comm. No. 155/96, Case No. ACHPR/COMM/A044/1, Oct. 27, 2001, http://www.umn.edu/humanrts/africa/comcases/all_cases.html (2001) [hereinafter "SERAC & CESR v. Nigeria"]. For a helpful and favorable summary of this case, see Bernard H. Oxman & Dinah Shelton, *Decision Regarding Communication 155/96 (Social and Economic Rights Action Center/Center for Economic and Social Rights v. Nigeria)* Case No. ACHPR/COMM/AO44/1, 96 AM. J. INT'L L. 937 (2002).

⁵⁰ See *supra* note 39.

⁵¹ SERAC & CESR v. Nigeria, *supra* note 49, at para. 44.

⁵² Involving killings that included the Nigerian junta hanging in 1995 of writer and political activist Ken Saro-Wiwa. CRAIG W. MCLUCKIE & AUBREY MCPHAIL, *KEN SARO WIWA: WRITER AND POLITICAL ACTIVIST* (2000).

⁵³ Specifically, the Commission held that the military government violated the right to life (art. 4) by facilitating and engaging in widespread "terrorisations and killings" (*supra* note 49, at para. 67; see also *supra* note 52) and by "the pollution and environmental degradation to a level humanly unacceptable [that] has made living in [Ogoniland] a nightmare" (*id.*) for individuals and the entire Ogoni community alike. Violations of the right to health it coupled with violations of the right of peoples to a "general satisfactory environment favorable to their development," and, in so doing, affirmed a broad conception of the right to health that in fact tied it, in the Commission's collective mind, to most if not all the other rights it adjudged the Nigerian government to have violated: non-discrimination (art. 2); the right to property (art.14); the right to housing, as implied in the duty to protect the family (art. 18[1]); the right to food, as implied in arts. 4, 16, and 22; and the right of peoples to freely dispose of their wealth and natural resources (art. 21). State obligations to safeguard each of the rights cited by it, the Commission ruled, "universally apply to all rights and entail a combination of negative and positive duties" (*id.* at para. 44) —thus suggesting a broadly conceived justiciable right to a clean and healthy environment.

⁵⁴ *Id.*, para. 51. Interestingly, the Commission supported this interpretative proposition by quoting with approval the late French law professor Alexandre Kiss, an environmental and human rights law scholar well known for his holistic view of the right to a clean and healthy environment: "an environment degraded by pollution and defaced by the destruction of all beauty and variety is as contrary to satisfactory living conditions and the development as the breakdown of the fundamental ecologic equilibria is harmful to physical and moral health." Alexandre Kiss, *Concept and Possible Implications of the Right to Environment*, in *HUMAN RIGHTS IN THE TWENTY-FIRST CENTURY: A GLOBAL CHALLENGE* 551, 553 (Kathleen Mahoney & Paul Mahoney eds., 1993).

course, perhaps even definitive.⁵⁵ Nevertheless, as Oxman and Shelton correctly observe, “the [Commission’s] decision that all rights in the African Charter are enforceable and may be subject to the system’s communication procedure advances the African system well ahead of other regional systems. Those systems have moved tentatively toward allowing petitions for economic, social, and cultural rights, and which only partially recognize a right to environment.”⁵⁶

National Decision-Making

National legal processes that honor the human rights/environment linkage can be important to confirming the human right to a clean and healthy environment for two principal reasons: first, because they can jointly create, if sufficiently similar and numerous, general principles of law recognized as law-making or law-enforcing “sources of law” for pertinent national and international decision; second, because they can and frequently do shape both national and international legal and policy decisions. These decisions are typically part of a reciprocal process of give and take, in ways binding or conclusive as well as influential in merely a guidance sense, especially where the respective legal systems are similar or compatible.

In recent years, however, national decisions that focus exclusively on the rights to life, health, and/or respect for private and family life as safeguards against environmental injury are less readily found or widespread. The same may be said, indeed, of any specific cluster of such substantive rights. This is so, it appears, because of the “greening” influence of the 1972 Stockholm Declaration and its progeny;⁵⁷ the trend has been to encourage more an autonomous than a derivative right to a clean and healthy environment (a theme to which we turn in Subsection B, below). Still, nationally based decisions in the derivative tradition do continue, and while documentary inaccessibility and language barriers preclude comprehensiveness at this time, those we have come upon are worthy of attention if only because they tend to mirror their international counterparts. Some we have found in Latin America and Sub-Saharan Africa, revealing, interestingly, symmetry between the civil and common law systems. The majority, however, appear to emanate from South Asia.

Latin America

A “Background Paper” for a 2002 Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment conveniently reports six cases that focus on the rights to life and health in Argentina, Chile, Colombia, and Costa Rica.⁵⁸ Interestingly, these cases track closely the

⁵⁵ As pointed out by Oxman & Shelton, *supra* note 49, at 942 (footnote omitted): “The Commission gives the right to environment meaningful content by requiring the state to adopt various techniques of environmental protection, such as environmental impact assessment, public information and participation, access to justice for environmental harm, and monitoring of potentially harmful activities. The result offers a blueprint for merging environmental protection, economic development, and guarantees of human rights.” For further discussion of an autonomous human right to a clean and healthy environment, see *infra* Subsection B.

⁵⁶ *Id.*

⁵⁷ See *supra* note 16.

⁵⁸ See Adriana Fabra & Eva Arnal, *Review of jurisprudence on human rights and the environment in Latin America*, Background Paper No. 6, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, Jan. 14-16, 2002, Geneva, <http://www2.ohchr.org/english/issues/environment/envIRON/bp6.htm> (accessed Nov. 15, 2010). The

international legal and policy decisions surveyed above, involving actionable deprivations of the right to life and health—though apparently not of the right to respect for private and family life—resulting from environmental harm, with conspicuous attention given to the rights of indigenous peoples and distinct indications of a trend toward an autonomous right to a clean and healthy environment.⁵⁹

Sub-Saharan Africa

A 1991 case in Tanzania appears to be the first African litigation to address the reach of a constitutional right to life provision in an environmental damage setting. In the case of *Joseph D. Kessy and Others v. Dar es Salaam City Council*,⁶⁰ residents of a Dar es Salaam suburb successfully enjoined the Dar es Salaam City Council from continuing to dump and burn waste in their area. The Court of Appeals of Tanzania forcefully admonished the City Council that its actions endangered the health and lives of the applicants and thus violated their constitutional right to life. In the words of Justice Lugakingira:

authors note that their review was based in part on a previous article by Adriana Fabra, *Enforcing the Right to a Healthy Environment in Latin America*, 3 REV. EUR. COMM. & INT'L ENVTL. L. (RECIEL) 4 (1994).

⁵⁹ Following are the six cases cited (and quoted) in the Fabra-Arnal report, *supra* note 58:

- In Argentina: (1) the 1986 case of *Bustos Miguel y Otros v. Dirección de Fábricas Militares, S/Acción de Amparo*, Juzgado Federal de Primera Instancia No. 2. La Plata, Dec. 30, 1986 (right to life and health); (2) the 1993 case of *Margarita v. Copetro S.A.*, Cámara Civil y Comercial de La Plata, May 10, 1993 www.elDial.com (accessed Nov. 28, 2010) (right to life affected by coal-burning cancerous pollutants); and (3) the 1995 and 1998 case of *Almada Hugo N. v. Copetro and Others*, Cámara De Apelaciones en lo Civil y Comercial de La Plata, Sept. 9, 1995, and Suprema Corte de Justicia de la Ciudad de Buenos Aires, May 19, 1998 (right to life and health affected by “environmental pollution”);
- In Chile: (4) the case of *Juan Pablo Orrego Silva et al. v. Empresa Eléctrica Pangue S.A.*, Corte Suprema, Aug. 5, 1993 (right to life of “communities” allegedly affected by water shortages and flooding resulting from dam construction);
- In Colombia: (5) the case of *Organización Indígena de Antioquia v. Codechoco & Madarién*, Juzgado Tercero Agrario del Circuito Judicial de Antioquia. Medellín. Feb. 24, 1993 (right to life of indigenous peoples affected logging operations); and
- In Costa Rica: (6) the case of *Presidente de la sociedad MARLENE S.A. v. Municipalidad de Tibás Marlene*, Sala Constitucional de la Corte Suprema de Justicia, Nov. 25, 1994 (right to life and health). Noteworthy in this case is the court’s observation, as recounted by Fabra and Arnal, *supra*, “that the right to health and to a healthy environment emanate from the right to life and from the state’s obligation, in that case, to protect nature. The court added that without recognition of the rights to health and to the environment the right to life would be severely limited.”

The first two of the three Argentinian cases were decided before the Argentine Constitution recognized “the right to a healthy and balanced environment fit for human development,” as it now does in Article 41. See Constitution of the Argentine Nation, *available in English* at http://www.servat.unibe.ch/icl/ar00000_.html (accessed Nov. 28, 2010). This constitutional provision and others like it, guaranteeing an autonomous right to a clean and healthy environment or its linguistic equivalent, are the subject of further discussion *infra* Section B.3.

⁶⁰ High Court of Tanzania, *Dar es Salaam* (Sept. 9, 1991), unreported, but recounted and partially extracted in 4 INT’L ENVTL. L. REPS. 425 (2004)

I will say at once that I have never heard it anywhere for a public authority, or even an individual, to go to court and confidently seek for permission to pollute the environment and endanger people's lives, regardless of their number. Such wonders appear to be peculiarly Tanzanian, but I regret to say that it is not given to any court to grant such a prayer. Article 14 of our Constitution provides that [as] every person has a right to live and to protection of his life by the society it is therefore a contradiction in terms and a denial of this basic right deliberately to expose anyone's life to danger or, what is eminently monstrous, to enlist the assistance of the Court in this infringement.

Though reputedly unreported, the case and the admonition have been repeatedly cited and favorably quoted in Tanzanian and other African litigation.⁶¹

The *Kessy* judgment, it is clear, was not an isolated or unusual one. Three other Sub-Saharan African cases bear witness: the 2005 Nigerian case of *Mr. Jonah Gbemre (for himself and as representing Iwherekhan Community in Delta State, Nigeria) v. Shell Petroleum Development Company Nigeria Ltd. [Shell Nigeria], Nigerian National Petroleum Corporation [NNPC], & Attorney General of the Federation*,⁶² the 2006 Kenyan case of *Peter K. Waweru v. Republic*,⁶³ and the 2007 Ghanaian case of *Center for Public Interest Law and Another v. Tema Oil Refinery*,⁶⁴ a *locus standi* suit. As in *Kessy*, each confirmed the environmental reach of the right to life.⁶⁵

⁶¹ For example, in a Complaint Relating to Violations of Fundamental Rights and Duties Arising from Forced Evictions of Artisanal Miners from Afrika Mashariki Gold Mine, Tarime, submitted to the Tanzania Commission for Human Rights in 2003, http://www.ecolex.org/ecolex/ledge/view/RecordDetails;document_Complaint%20relating%20to%20Violations%20of%20Fundamental%20Rights%20and%20Duties%20arising%20from%20Forced%20Evictions%20of%20Artisanal%20Miners%20from%20Afrika%20Mashariki%20Gold%20Mine,%20Tarime.html?DIDPFDSIjsessionid=300D0257ED6536231A5E47D764BFC659?id=COU-144377&index=courtdecisions (accessed Nov. 28, 2010). After quoting Justice Lugakingira in *Kessy*, *supra* note 60, it went on to quote Chief Justice Honorable Justice Barnabas Samatta of Tanzania in a “welcoming address” opening a Judicial Symposium on Environmental Law in Arusha in June 2003:

My Lords, as most of those present here very well know, the Constitution of this country recognizes the right to life. What are the ingredients of this right? Does the right mean merely the right to animal existence? If that is the correct meaning, then it follows that the right can scarcely be used by courts to protect the environment. If the fundamental right includes the right to a clean and wholesome environment and to a safe and clean air and water, then our courts will be able to play a significant role in the protection and improvement of natural environment, including forests, lakes, rivers and wildlife. Then they would be able to echo the words of Mr. Justice Holmes: “A river is more than [an] amenity; it is a treasure.”

⁶² *Jonah Gbemre v. Shell Petroleum Development Company Nigeria Ltd. [Shell Nigeria], Nigerian National Petroleum Corporation [NNPC], & Attorney General of the Federation*, Federal High Court of Nigeria in the Benin Judicial Division (Nigeria, Nov. 5, 2005), <http://www.climatelaw.org/cases/case-documentsnigeria/ni-shell-nov05-judgment.pdf> (accessed Nov. 28, 2010).

⁶³ *Peter K. Waweru v. Republic*, High Court of Kenya at Nairobi (Kenya, 2006), <http://www.elaw.org/system/files/Kenya-Waweru.pdf> (accessed Nov. 28, 2010).

⁶⁴ *Center for Public Interest Law and Another v. Tema Oil Refinery*, High Court of Justice at Tema (Ghana, Sept. 9, 2007), <http://www.elaw.org/node/5353> (accessed Nov. 28, 2010).

⁶⁵ In *Jonah Gbemre*, *supra* note 62, responding to the polluting effects of “gas flaring” by Shell Nigeria and NNPC in the Niger Delta, and citing the 1981 Banjul Charter (*supra* note 10), the Nigerian Constitution, and Nigerian federal laws, the Federal High Court ruled that “these constitutionally guaranteed rights *inevitably* includes [sic] the rights to [a] clean, poison-free, pollution-free healthy environment” (emphasis added). Notwithstanding this pointed indictment,

South Asia

The unanimity of outlook evident in the Latin American and Sub-Saharan case law, though quantitatively modest, prevails also in South Asia—more so, it seems, than anywhere else in the world. The decisions, however, are too numerous to report in full here. Brief explanatory citations of cases found in Bangladesh,⁶⁶ India (which appears to have generated the most cases),⁶⁷

however, a subsequent court order for Shell Nigeria and the NNPC to cease and desist gas flaring, labeled a “gross violation” of the constitutionally guaranteed rights involved, was disregarded by the two companies, triggering contempt proceedings against them. The stakes were high. All the major multinational oil companies in Nigeria engaged in the practice of flaring gas (i.e., ExxonMobil, ChevronTexaco, Total, Fina, Elf, and Agip, as well as Shell), and the breadth of the ruling suggested that their flaring was illegal on human rights as well as other grounds also.

In *Waweru*, *supra* note 63, though ruling in favor of the applicants—sewage polluting property owners—on the grounds that they were victims of unlawful discrimination, the High Court of Kenya went on *sua sponte* to discuss the environmental implications of the applicants’ behavior. Referencing the 1972 Stockholm Declaration, *supra* note 16, and 1992 Rio Declaration on Environment and Development [hereinafter “Rio Declaration”], U.N. Doc. A/CONF.151/26 (1992), *reprinted in* 31 I.L.M. 874 (1992) and V BASIC DOCUMENTS, *supra* note 5, at V.B.16, the 1987 Report of the World Commission on Environment and Development (OUR COMMON FUTURE, hereinafter the “Commission Report”), the 1981 Banjul Charter (*supra* note 10), and a leading Pakistani decision (*Shehla Zia*, *infra* note 70 and accompanying text), it asserted that the constitutional right to life enshrined in Kenyan Constitution Section 71 includes the right to a clean and healthy environment and that in its view “the right to life is not just a matter of keeping body and soul together because in this modern age that right could be threatened by many things including the environment.” The Court continued: “It is quite evident from perusing the most important international instruments on the environment that the word life and the environment are inseparable and the word life means much more than keeping body and soul together.”

In *Center for Public Interest Law and Another*, the Superior Court of Judicature of the Ghanaian High Court of Justice responded favorably to the plaintiff’s claim that a “negligent oil spill” by the defendant oil company into a lagoon, damaging its flora and fauna and causing the local inhabitants, predominately fishermen, to become destitute “due to the annihilation of all life forms in the . . . lagoon,” was of sufficient public interest to have violated a constitutionally guaranteed right to life “and by implication the right to a clean and healthy environment.” In so doing, lacking Ghanaian judicial precedent, but persuaded that “the courts must become proactive when handling cases involving environmental issues,” it relied upon plaintiff’s cited authorities, including the Article 24 guarantee of the 1981 Banjul Charter’s (*supra* note 10) of “the right to a general satisfactory environment favourable to . . . development”) and “the practices in other common law countries,” especially India.

⁶⁶ See, e.g., *Dr. Mohiuddin Farooque v. Bangladesh and Others*, Supreme Court of Bangladesh, High Court Division (Bangladesh, 1996), <http://www.elaw.org/node/3692> (accessed Sept. 27, 2011). Lacking a constitutional provision for the protection of the environment per se, the Supreme Court invoked Constitution Articles 31 (“Right to protection of law”) and 32 (“Right to life and personal liberty”), identified the right to life as “a fundamental right,” and ruled that it “encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life can hardly be enjoyed” such that “[a]ny act or omission contrary thereto will be violative of the said right to life.” The decision is reprinted in UNEP/UNDP, 1 COMPENDIUM OF JUDICIAL DECISIONS IN MATTERS RELATED TO ENVIRONMENT 37 (1998) [hereinafter UNEP/UNDP COMPENDIUM], [http://www.unep.org/padalia/publications/Jud. Dec.Nat.pre.pdf](http://www.unep.org/padalia/publications/Jud._Dec.Nat.pre.pdf) (accessed Nov. 28, 2010). For brief explanation of the prior unreported litigation see Y. K. Sabharwal (Chief Justice of India), *Human Rights and the Environment*, <http://www.nlsenlaw.org/environmental-protection/articles/human-rights-and-the-environment> (accessed Nov. 28, 2010).

⁶⁷ In India’s many cases, often concerning air and noise pollution and access to clean water, typically affirm the right to a clean and healthy environment by invoking Article 21 of the Indian Constitution (“life and personal liberty”), <http://lawmin.nic.in/coi/coiason29july08.pdf> (accessed Nov. 28, 2010). Early examples build on expanded constitutional interpretations in prior cases. See, e.g., *Francis Coralie Mullin v. Union Territory of Delhi*, Supreme Court of India (India, Jan. 13, 1981), <http://www.indiankanoon.org/doc/78536/> (accessed Sept. 27, 2011). Notable are the 1988 case of *L. K. Koolwal v. State of Rajasthan*, High Court of Rajasthan, (India, Sept. 19, 1986),

Nepal,⁶⁸ and Pakistan⁶⁹ must, for the most part, suffice. Especially noteworthy from an international law perspective, however, are two cases, one from Pakistan in 1994, the other from India in 2001.

<http://www.ielrc.org/content/e8601.pdf> (accessed Sept. 27, 2011) and the famous 1990 case of *Charan Lal Sahu, et al. v. Union of India* (the so-called “Bhopal Disaster Case”), Supreme Court of India (India, Dec. 22, 1989), <http://www.indiankanoon.org/doc/299215/> (accessed Sept. 27, 2011), reprinted in UNEP/UNDP COMPENDIUM, *supra* note 66, at 167, involving highly toxic Methyl Isocyanate (MIC) gas that, on December 2, 1984, leaked from a storage tank at the Bhopal plant of Union Carbide (India) Ltd., killing some 3000 people, injuring up to 30,000 people, and polluting the environment and its flora and fauna. The Supreme Court interpreted Article 21 to include “the right to [a] healthy environment free from hazardous pollutants.” Later noteworthy holdings, substantively supportive even when sometimes rejecting petitions on procedural grounds, include the 1991 Supreme Court case of *Subhash Kumar v. State of Bihar*, Supreme Court of India (India, 1991) <http://www.ielrc.org/content/e9108.pdf> (accessed Sept. 30, 2011) (“the right to live is a fundamental right under Art. 21 . . . and it includes the right of enjoyment of pollution free water and air for full enjoyment of life”), and the 1995 Supreme Court case of *Virendra Gaur and Others v. State of Haryana*, Supreme Court of India (India, 1994), <http://www.ielrc.org/content/e9407.pdf> (accessed Sept. 30, 2011) (“enjoyment of . . . life and its attainment including [the] right to life with human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life cannot be enjoyed” and “[a]ny contra acts should be regarded as amounting to violation of Article 21”); see also *Attakoya Thangal v. Union of India W.P.*, Kerala High Ct. (India, 2002), <http://www.elaw.org/node/2537> (accessed Nov. 28, 2010) (“There must be an effective and wholesome interdisciplinary interaction. At once, the administrative agency cannot be permitted to function in this manner as to make inroads, into the fundamental right under Art. 21. The right to life is much more than the right to an animal existence and its attributes are many fold, as life itself. A prioritization of human needs and a new value system has been recognized in these areas. The right to sweet water, and the right to free air, are attributes of the right to life, for, these are the basic elements which sustain life itself.”). There are numerous others. See, e.g., *B. S. Ashram v. State of U. P.*, (1993) 2 S.C.C. 612; *Vineet Kumar Mathur v. Union of India*, (1996) 1 S.C.C. 119; *Indian Council for Enviro-Legal Action v Union of India & Others*, (1996) 3 S.C.C. 212; *M. C. Mehta v. Union of India*, (1996) 4 S.C.C. 351; *S. Jagannath v. Union of India*, (1997) 2 S.C.C. 87; *M.C. Mehta v. Union of India*, (1999) 1 S.C.C. 413; *In re Noise Pollution Restricting Use of Loudspeakers*, Supreme Court of India (India, 2005), <http://www.indiankanoon.org/doc/1709298/> (accessed Sept. 30, 2011); *Forum, Prevention of Envn, & Sound Pollution v. Union of India & ANR*, Supreme Court of India (India, 2005), <http://www.elaw.org/node/1515> (accessed Sept. 30, 2011); *Krishnan v. State of Tamil Nadu and Others*, Madras High Court (India, 2005), <http://www.indiankanoon.org/doc/435772/> (accessed Sept. 30, 2011). A number of these cases and more may be found in UNEP/UNDP COMPENDIUM], *supra* note 66.

⁶⁸ See, for example, *Dhungel v. Godawari Marble Industries*, Supreme Court of Nepal (Nepal, Oct. 31 1995), <http://www.elaw.org/node/1849> (accessed Sept. 30, 2011) wherein the Supreme Court, contemplating Article 11(1) of the then existing Nepalese Constitution (right to life), declared that “it is the legitimate right of an individual to be free from a polluted environment,” that “protection of the environment is directly related with [the] life of [a] human being,” and that, therefore, “this matter [of the right to a clean, healthy environment] is included in Article 11(1). For the English language version of the Constitution of the Kingdom of Nepal India extant at the time of this case, see <http://www.sambidhan.org/english%20version/The%20Constitution%20of%20Nepal%202019%20En.pdf> (accessed Nov. 28, 2010).

⁶⁹ See, e.g., *In re Human Rights Case (Environment Pollution in Balochistan)*, Supreme Court of Pakistan, (Pakistan, Sept. 27, 1992), reprinted in UNEP/UNDP COMPENDIUM, *supra* note 66, at 180. In this case, the Supreme Court noticed a news item in a daily newspaper reporting a private business plan to purchase a coastal area of Balochistan to create a dumping ground for nuclear and other waste material. After determining that no license had been issued for this purpose, the Court concluded that, if the plan succeeded, it would constitute an illegal clandestine act. It also stated that it would create an environmental hazard and pollution that would violate Article 9 of the Pakistani Constitution, providing that “[n]o person shall be deprived of life or liberty save in accordance with law.” See also *General Secretary, West Pakistan Salt Miners Labour Union (CBA) Khewral, Jhelum v. The Director, Industries and Mineral Development, Punjab, Lahore*, Supreme Court of Pakistan (Pakistan, July 12, 1994), reprinted in UNEP/UNDP COMPENDIUM, *supra* note 66, at 282. In this case, fearing that continuing mining activities could cause a watercourse, reservoir, and pipeline to become contaminated, the petitioners sought enforcement of the local residents’ right to have clean and unpolluted water. The Supreme Court observed that Article 9 of the Constitution guaranteed that “no person

In Pakistan, in the 1994 “public interest” litigation, *Shehla Zia and Others v. WAPDA*,⁷⁰ the Supreme Court clarified that the right to life guarantee of the Pakistani Constitution (Article 9) includes “all such amenities and facilities which a person born in a free country is entitled to enjoy with dignity, legally and constitutionally.”⁷¹ Additionally, the Court cited Article 14(1) of the Constitution providing that “[t]he dignity of man and, subject to law, the privacy of home, shall be inviolable.” Reading Articles 9 and 14(1) together, the Court observed, “question will arise whether a person can be said to have dignity of man if his right to life is below bare necessity like without proper food, clothing, shelter, education, health care, clean atmosphere and unpolluted environment.”⁷² As a consequence, the Court held, “[a] person is entitled to protection of law from being exposed to hazards of electromagnetic fields or any other such hazards which may be due to installation and construction of any grid station, any factory, power station or such like installations.”⁷³ It therefore ordered an official inquiry into whether or not whether there is any likelihood of any such hazard or adverse effect on health of the residents of the locality. Significantly, the Court took note of the 1972 Stockholm and 1992 Rio declarations,⁷⁴ acknowledging their theoretically non-binding status but at the same time accepting “the fact . . . that they have a persuasive value and command respect.”⁷⁵ Additionally and from similar perspective, it referenced the U.S. Constitution and numerous judgments of the Indian Supreme Court, including several noted above.⁷⁶

In India is the 2001 Supreme Court case of *Andhra Pradesh Pollution Control Board-II v. Prof. M.V. Nayudu & Others*.⁷⁷ In addition to relying upon Article 21 of the Indian Constitution (right to life), the Court referenced the Resolution on Community Water Supply of the 1977 United Nations Water Conference (“All peoples, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs”),⁷⁸ the 1966 ICESCR and ICCPR,⁷⁹ the 1986 Declaration on the Right to

shall be deprived of life or liberty save in accordance with the law” and further clarified that the word “life” had “an extended meaning and cannot be restricted to vegetative life or mere animal existence.” It continued: “In hilly areas where access to water is scarce, difficult [or] limited, the right to have water free from pollution and contamination is a right to life itself.”

⁷⁰ *Shehla Zia and Others v. WAPDA*, Supreme Court of Pakistan (Pakistan, Sept. 27, 1992) <http://www.elaw.org/node/1342> (accessed Sept. 30, 2011); *reprinted in* UNEP/UNDP COMPENDIUM, *supra* note 66, at 323.

⁷¹ *Id.*, para. 12.

⁷² *Id.*, para. 14.

⁷³ *Id.*, para. 12.

⁷⁴ *Supra* notes 16, 65.

⁷⁵ *Supra* note 66, para. 9.

⁷⁶ See *supra* note 67.

⁷⁷ *Andhra Pradesh Pollution Control Board II v. Prof. M.V. Nayudu & Others*, Supreme Court of India (India, Dec. 1, 2000), <http://www.ielrc.org/content/e0010.pdf> (accessed Sept. 30, 2011).

⁷⁸ See Report of the United Nations Water Conference, Mar del Plata, March 14-25, 1977 (United Nations Publication Sales No. E.77.II.A.12), Resolutions, <http://www.ielrc.org/content/e7701.pdf> (accessed Nov. 28, 2010).

Development,⁸⁰ and the 1992 Rio Declaration⁸¹ as authority for interpolating a right of access to safe drinking water into the right to life guaranteed by Article 21. Indeed, further confirming the constant interplay of national and international law, it cited also the case law of the European Court of Justice, the European Court of Human Rights, and the Inter American Commission on Human Rights, even decisions of national courts in Colombia, the Philippines, and South Africa. On the basis of Article 21 and these international and transnational sources—from which, it may be noted, it accepted and applied the precautionary principle—the Court allowed appeals that sought to prevent the establishment of industries potentially capable of polluting drinking water reservoirs.

The foregoing Latin American, Sub-Sahara African, and South Asian cases are not alone among national decisions affirming that environmental rights may be derived from the right to life, health, and respect for private and family life. There are others scattered elsewhere, sometimes in conjunction with a constitutionally mandated autonomous right to a clean and healthy environment.⁸²

2. The Environment and Other Recognized Substantive Human Rights

While the human rights to life, health, and respect for private and family life are the dominant entitlements through which protection from environmental harm has been given, they are not the only substantive human rights so utilized, a least not at the national level. Also invoked for this purpose in national fora, and generally with the same or similar logic, are the rights to habitat, livelihood, culture, dignity, equality and nondiscrimination, and sleep. Clearly, the spectrum of substantive human rights claimed as surrogates for protection from environmental harm or as a substitute for the autonomous right to a clean and healthy environment is a wide one. There are, however, too many instances of them to detail here. We leave it to authoritative citations to substantiate the point.⁸³

⁷⁹ *Supra* note 5.

⁸⁰ United Nations General Assembly Declaration on the Right to Development, Dec. 4, 1986, G.A. Res. 41/128 (Annex), at 186, U.N. GAOR, 41st Sess., Supp. No. 53, U.N. Doc A/41/53 (1987), *reprinted* in III BASIC DOCUMENTS, *supra* note 5, at III.R.2.

⁸¹ *Supra* note 65.

⁸² *See, e.g.*, Senih Özay v. Ministry of the Environment and Eurogold Madencilik, Supreme Administrative Court of Turkey, Ref. No. 1996/5477, Ruling No. 1997.2312, 4 INT'L ENV'T'L. L. REPS. 452 (May 13, 1997); Oposa v. Factoran, Supreme Court of the Philippines, G.R. No.101083, 224 S.C.R.A. 792 (July, 30, 1993), *reprinted* in 33 I.L.M. 173 (1994).

⁸³ *See, e.g.*, Kattan, Alberto and Others v. National Government, Juzgado Nacional de la Instancia en lo Contencioso administrativo Federal. No. 2, Ruling of 10 May 1983, La Ley, 1983-D, 576 (Argentina) [habitat]; Research Foundation for Science v. Union of India, Supreme Court of India (India, Sept. 11, 2007) <http://indiankanoon.org/doc/548962/> (accessed Sept. 30, 2011) [livelihood]; Erik Anderson v. Norwegian State, Supreme Court of Norway (Norway, Oct. 5, 2001), <http://www.elaw.org/system/files/svartskogdommen.pdf> (accessed Sept. 30, 2011) [culture]; Anjun Irfan v Lahore Development Authority, Lahore High Court (Pakistan, June 14, 2002), <http://www.elaw.org/system/files/Pakistan--PLD2002Lahore555.doc> (accessed Sept. 30, 2011) [dignity]; Mossville Environmental Action Now v. United States, 370 F.3d, 1232 (D.C. Cir. 2003) [equality and nondiscrimination]; Forum, Prevention of Env't, & Sound Pollution v. Union of India & ANR, Supreme Court of India (India, 2005), <http://www.elaw.org/node/1515> (accessed Sept. 30, 2011) [sleep].

B. The Human Right to a Clean and Healthy Environment as An Autonomous Right

An autonomous human right is one that, separate unto itself, is not dependent on any other human right for its moral or legal recognition.⁸⁴ From a definitional standpoint, it matters not whether that recognition takes place on the global, regional, or national plane or all three.

⁸⁴ Accord, Sumudu Atapattu, *The Right to Life or the Right to Die Polluted: The Emergence of a Human Right to a Healthy Environment Under International Law*, 16 TUL. ENVTL. L. J. 65, 70 (2002).

1. Recognition on the Global Plane

The human right to a clean and healthy environment as an autonomous right, appears to have emerged on the global plane in modern times first in Principle 1 of the 1972 Stockholm Declaration.⁸⁵

Man has the fundamental right to freedom, equality, and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.⁸⁶

As Professor Rodriguez-Rivera has observed, “the works of the Preparatory Committee of the United Nations Conference on the Human Environment reveal that the draft of the Stockholm Declaration ‘was based on the recognition of the rights of individuals to an adequate environment,’”⁸⁷ thus refuting the claim, sometimes made, that the Declaration recognizes a right to a clean and healthy environment only as derived from other human rights.

In the years since Stockholm, the autonomous right to a clean and healthy environment has been reaffirmed both explicitly and implicitly in numerous international instruments of so-called “soft law” (which, in some cases, may be much harder than ordinarily presumed). A chronological account confirms this fact and demonstrates its historical evolution, beginning in earnest (and somewhat surprisingly) not until a full decade after Stockholm:

- In October 1982, in Resolution 37/7, the U.N. General Assembly adopted the World Charter for Nature, proclaiming twenty-four principles of conservation “*by which all human conduct affecting nature is to be guided and judged*,” each based on the following general principles: (1) “nature shall be respected and its essential processes shall not be impaired”; (2) “genetic viability on the earth shall not be compromised”; (3) “[a]ll areas of the earth . . . shall be subject to these principles of conservation”; (4) “[e]cosystems and organisms, as well as the . . . resources utilized by man, shall be managed in such a way as [not] to

⁸⁵ *Supra* note 16. See also *supra* text accompanying notes 15-17. Principle 1 is reinforced by Principle 21 which provides that “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, *and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction*” (emphasis added).

⁸⁶ An historical curiosity may be found in the fact that, in the early presidency of Richard Nixon, the United States proposed an autonomous human right to a clean and healthy environment in the Stockholm Declaration, but, during the late presidency of Ronald Reagan, strongly opposed the inclusion of such a right in the Rio Declaration (*supra* note 65) twenty years later. See, Dinah Shelton, *What Happened at Rio to Human Rights?*, 3 Y.B. INT’L ENVTL. L. 75, 76-77 (1992). The U.S. formulation for the Stockholm Declaration, which was rejected by the Stockholm Conference participants (from the developing countries in particular) for being too direct in favor of Principle 1, read as follows: “Every human being has a right to a healthful and safe environment, including air, water and earth, and to food and other material necessities, all of which should be sufficiently free of contamination and other elements which detract from the health or well-being of man.” See Dinah Shelton, *Environmental rights*, in PEOPLES’ RIGHTS 189, 194 (P. Alston ed., 2001).

⁸⁷ Luis E. Rodriguez-Rivera, *Is the Human Right to Environment Recognized Under International Law? It Depends on the Source*, 12 COLO. J. ENVTL. L. & POL’Y 1, 17 (2001) (citing Preparatory Committee for the United Nations Conference on the Human Environment, para. 77, U.N. Doc. A/Conf.48/PC/17 [1972]).

endanger the integrity of . . . other ecosystems or species with which they coexist”; and (5) “[n]ature shall be secured against degradation caused by warfare or other hostile activities”;⁸⁸

- In June 1986, the Experts Group on Environmental Law of the World Conference on Environment and Development (WCED) adopted Legal Principles on Environmental Protection and Sustainable Development⁸⁹ which, later appended to the Brundtland Commission Report,⁹⁰ state that “[a]ll human beings have the fundamental right to an environment adequate for their health and well-being”;
- In December 1986, in Resolution 41/128, the U.N. General Assembly adopted the Declaration on the Right to Development, Article 1(1) of which states that “[t]he human right to development also implies the full realization of the right of peoples to self-determination, which includes, subject to the relevant provisions of both International Covenants on Human Rights, the exercise of their inalienable right to full sovereignty over all their natural wealth and resources”;⁹¹
- In March 1989, the Declaration of The Hague, adopted by twenty-four Heads of State or Government or their Representatives,⁹² asserted that ozone depletion, climate change, and other forms of environmental degradation “involve not only the fundamental duty to preserve the ecosystem, but also the right to live in dignity in a viable global environment, and the consequent duty of the community of nations vis-à-vis present and future generations to do all that can be done to preserve the quality of the atmosphere”;⁹³
- In December 1990, in U.N. General Assembly Resolution 45/94, adopted without recorded vote, the General Assembly recognized “that all individuals are entitled to live in an environment adequate for their health and well-being”;⁹⁴

⁸⁸ U.N. General Assembly 37/7 (Annex), at 17, U.N. GAOR, 37th Sess., Supp. No. 51, , U.N. Doc. A/37/51 (1983), *reprinted in* 22 I.L.M. 455 (1983) and V BASIC DOCUMENTS, *supra* note 5, at V.B.11 (emphasis added). The World Charter was adopted 111-1-18, with 14 of the 18 abstentions being Latin American states and the sole vote against being that of the United States.

⁸⁹ U.N. Doc. WCED/86/23/Add.1 (June 18-20, 1986), *reprinted in* , *supra* note 5, at BASIC DOCUMENTS, *supra* note 5, at V.B.12, *supra* note 5.

⁹⁰ *Supra* note 65.

⁹¹ *Supra* note 80.

⁹² *I.e.*, Australia, Brazil, Canada, Côte d'Ivoire, Egypt, France, Germany (West), Hungary, India, Indonesia, Italy, Japan, Jordan, Kenya, Malta, Norway, New Zealand, Netherlands, Senegal, Spain, Sweden, Tunisia, Venezuela, and Zimbabwe.

⁹³ U.N. Doc. A/44/340, *reprinted in* 28 I.L.M. 1308 (1989) and V BASIC DOCUMENTS, *supra* note 5, at V.E.13.

⁹⁴ Need to Ensure a Healthy Environment for the Well Being of Individuals, G.A. Res. 45/94, at 178, U.N. GAOR, 45th Sess., Supp. No. 49, U.N. Doc A/45/49 (1990), *reprinted in* V BASIC DOCUMENTS, *supra* note 5, at V.B.14.

- In June 1992, in Principle 1 of the Rio Declaration,⁹⁵ the United Nations Conference on Environment and Development, invoking the language of entitlement, asserted that “[h]uman beings are at the centre of concerns for sustainable development [and] are entitled to a healthy and productive life in harmony with nature”;⁹⁶
- In July 1994, the U.N. Sub-Commission on Prevention of Discrimination and Protection of Minorities⁹⁷ issued the Final Report of its Special Rapporteur on Human Rights and the Environment⁹⁸ in which the Special Rapporteur (Ms. Fatma Zohra Ksentini), in addition to urging the greater recognition and implementation of procedural environmental rights, stated that “it is generally accepted” that Article 28 of the UDHR⁹⁹—which entitles everyone to “a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized”—“covers the environmental concerns of this day and age,”¹⁰⁰ and that, by virtue of “the indivisibility and interdependence of all human rights” as well as the U.N. General Assembly’s Declaration on the Right to Development,¹⁰¹ “it is impossible to separate the claim to the

⁹⁵ *Supra* note 65.

⁹⁶ While some have argued that this language constituted a retreat from the 1972 Stockholm Declaration (*e.g.*, Mariana T. Acevedo, *The Intersection of Human Rights and Environmental Protection in the European Court of Human Rights*, 8 N.Y.U. ENVTL. L. J. 437, at 451 [2000]), others contend, correctly in our view, that Rio Declaration Principle 1, “which was accepted without reservation by almost every nation, captures the ideals of a human right to a healthy environment, if not explicitly recognizing such a right.” John Lee, *The Underlying Legal Theory to Support a Well-Defined Human Right to a Healthy Environment as a Principle of Customary International Law*, 25 COLUM. J. ENVTL. L. 283, 308 (2000). Lee continues:

The language of Principle 1 of the Rio Declaration was reproduced *verbatim*, and accepted without reservation by 179 nations at the 1994 U.N. Conference on Population and Development; by 186 nations at the 1995 World Summit for Social Development; by 175 nations at the 1996 Second Conference on Human Settlements (Habitat II); and by 17 nations at the OAS-sponsored 1997 Hemispheric Summit on Sustainable Development. For the purposes of customary international law, this reaffirmation of the language agreed upon in Principle 1 of the Rio Declaration is significant. While each of these reaffirmations is legally non-binding, the fact that almost every nation made this reaffirmation without reservation—at least three times—is evidence of a widespread and consistent state practice. Such practice can contribute to the creation of a right to a healthy environment as a principle of customary international law. *Id.* at 309-09 (footnotes omitted).

“At the same time,” observes Professor Lynda Collins, though herself supportive of Lee’s thesis, “it will no doubt be argued that had the signatories to Rio intended to recognize a human *right* to environment, they would have been plain about it.” Lynda M. Collins, *Are We There Yet? The Right to Environment in International and European Law*, MCGILL INT’L J. SUSTAINABLE DEV. L. & POL’Y 119, 133 (2007).

⁹⁷ Renamed the Sub-Commission on the Promotion and Protection of Human Rights in 1999, in turn replaced by the Human Rights Council Advisory Committee in 2008 to serve as a “think tank” for the Council and work under its direction.

⁹⁸ Annex I to *Review of Further Developments in the Fields with Which the Sub-Commission Has Been Concerned, Human Rights and the Environment: Final Report Prepared by Ms. Fatma Zohra Ksentini, Special Rapporteur*, U.N. EXCOR, 46th Sess., U.N. Doc. E/CN.4/Sub.2/1994/9 (hereinafter “Ksentini Report”).

⁹⁹ *Supra* note 7.

¹⁰⁰ Ksentini Report, *supra* note 98, para. 34.

¹⁰¹ *Supra* note 80.

right to a healthy and balanced environment from the claim to the right to ‘sustainable’ development”;¹⁰²

- In September 1997, the Institute of International Law declared in its Strasbourg session that “[e]very human being has the right to live in a healthy environment”;¹⁰³
- In February 1999, an International Seminar of Experts on the Right to the Environment, convened by UNESCO and U.N. High Commissioner for Human Rights in Bilbao, issued the Bizkaia Declaration on the Right to Environment, Article 1 of which affirmed that “[e]veryone has the right, individually or in association with others, to enjoy a healthy, ecologically balanced environment” and that “[t]he right to the environment may be exercised before public bodies and private entities, whatever their legal status under national and international law”;¹⁰⁴
- In January 2002, in a meeting convened by the Office of the High Commissioner for Human Rights and the United Nations Environment Programme at the invitation of the United Nations Commission on Human Rights, a Seminar of Experts on the Right to the Environment recommended, among other things and within the context of a then forthcoming World Summit on Sustainable Development, that support be given to “the growing recognition of a right to a secure, healthy and ecologically sound environment, either as a constitutionally guaranteed entitlement/right or as a guiding principle of national and international law”;¹⁰⁵
- In June 2002, pursuant to Decision 2002/105 of the U.N. Commission on Human Rights and Resolution 2001/2 of the Sub-Commission on Prevention of Discrimination and Protection of Minorities, a Special Rapporteur (El Hadji Guissé) published a preliminary

¹⁰² Ksentini Report, *supra* note 98, para. 49. Also noteworthy is a Draft Declaration of Principles on Human Rights and the Environment that was appended to the Ksentini Report, Principle 2 of which provided that “[a]ll persons have the right to a secure, healthy and ecologically sound environment,” adding that “[t]his right and other human rights, including civil, cultural, economic, political and social rights, are universal, interdependent and indivisible. . . .” The outcome of a meeting of international environmental law and human rights experts in Geneva in May 1994, the Draft Declaration, though never adopted by any international body, foretold the tripartite approach to the right to a clean and healthy environment under consideration here. See Collins, *supra* note 96, at 134 (citing Karrie Wolfe, *Greening the International Human Rights Sphere? Environmental Rights and the Draft Declaration of Principles on Human Rights and the Environment*, 9 APPEAL 45, 48 [2003]); Neil Popovic, *In Pursuit of Environmental Human Rights: Commentary on the Draft Declaration of Principles on Human Rights and the Environment*, 27 COLUM. HUM. RTS. L. REV. 487 (1996).

¹⁰³ Institute of International Law, Resolution on the Environment (Session of Strasbourg 1997), art. 2, http://www.idi-iil.org0/idiE/resolutionsE/1997_str_02_en.PDF (accessed Nov. 28, 2010). Article 1 defines “environment” to include (a) “abiotic and biotic natural resources, in particular air, water, soil, fauna and flora, as well as the interaction between these factors” and (b) “the characteristic features of the landscape.”

¹⁰⁴ Declaration of Bizkaia on the Right to Environment, United Nations Educational, Scientific and Cultural Organization, 30th Sess., Doc. 30C/INF.11 (1999). Also noteworthy in this declaration is its preambulatory emphasis that “the right to environment is inherent to the dignity of all persons and is necessarily linked to the guaranteeing of other human rights including in particular the right to development.”

¹⁰⁵ Available on the website of the Office of the United Nations High Commissioner for Human Rights, <http://www2.ohchr.org/english/issues/environment/environ/index.htm> (accessed Nov. 28, 2010).

report on the “relationship between the enjoyment of economic, social and cultural rights and the promotion of the realization of the right to drinking water supply and sanitation,” and therein concluded that the right in question is not only a human right but one that necessarily implicates the “right to a healthy environment”—by implication, already in existence;¹⁰⁶

- In September 2007, by a vote of 143-4-11, the U.N. General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples in which it proclaimed, in Article 26(1), that “[i]ndigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. . . .”¹⁰⁷
- In November 2007, the Alliance of Small Island States (AOSIS) adopted the Male’ Declaration on the Human Dimension of Climate Change which recognizes, among other things, “the fundamental right to an environment capable of supporting human society and the full enjoyment of human rights”;¹⁰⁸
- In September 2010, the U.N. Human Rights Council issued a Report of its Special Rapporteur on the Adverse Effects of the Movement and Dumping of Toxic and Dangerous Products and Wastes on the Enjoyment of Human Rights¹⁰⁹ in which the Special Rapporteur (Okechukwu Ibeanu), following a mission to India and commenting upon an Indian Supreme Court decision, stated that he “notes with satisfaction that the Supreme Court has on a number of occasions recognized the right to a safe and healthy environment as being implicit in the fundamental right to life.”¹¹⁰

In combination, these and other instances of explicit and implicit recognition, too numerous to recount in full, give weight to the proposition that the right to a clean and healthy environment exists already in customary international law on the global plane or that it is well on its way to such validation. This proposition is the more persuasive when one makes room for the widely accepted logic that there can be no right without a countervailing duty (a variant of the “right”-“remedy” equation). Accordingly, by reverse reasoning, this proposition infers a right to a clean and healthy environment when the duty to protect and preserve the same is spelled out but the right is not, as is often the case. It is all the more persuasive, too, when one takes into account the growing number of instances in which a constituent right of the right to a clean and healthy environment (e.g., the

¹⁰⁶ See U.N. Doc. E/CN.4/Sub.2/2002/10 (2002) (accessed Nov. 28, 2010).

¹⁰⁷ *Supra* note 43. The four votes against were cast by Australia, Canada, New Zealand, and the United States, each countries with significant indigenous populations. The eleven abstentions were by Azerbaijan, Bangladesh, Bhutan, Burundi, Colombia, Georgia, Kenya, Nigeria, Russia, Samoa, and Ukraine.

¹⁰⁸ Available on the website of Center for International Environmental Law (CIEL), http://www.ciel.org/Publications/Male_Declaration_Nov07.pdf (accessed Nov. 28, 2010).

¹⁰⁹ U.N. General Assembly Human Rights Council, Agenda Item 3 (Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development) Report of the Special Rapporteur, Addendum (Mission to India), Doc. A/HRC/15/22/Add.3 (Sept. 2, 2010).

¹¹⁰ *Id.*, para. 87.

right to water, habitat, or a standard of living adequate for health and well-being) is declared recognized, or when a particular environmental threat (e.g. pesticides or liquid hydrocarbons) is targeted for remedial legal action for the express or implied purpose of achieving a clean and healthy environment.

It is in this light, for example, that one may view the November 2002 decision of the U.N. Committee on Economic, Social, and Cultural Rights, referencing Articles 11 and 12 of the ICESCR,¹¹¹ to adopt General Comment No. 15 on the right to water, stating, *inter alia*, that “[t]he human right to water is indispensable for leading a life in human dignity” and that “[i]t is a prerequisite for the realization of other human rights.”¹¹²—Even better, one might cite the July 2009 U.N. General Assembly Resolution 64/292 recognizing “the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.”¹¹³ It is in this light, too, that one may accept the adoption in January 2002 by the Basel Convention’s Technical Working Group of technical guidelines designed “to promote the environmentally sound management of plastic wastes.”¹¹⁴ Singly and together, these and many other like actions in recent decades signal a legal presumption of obligation to a clean and healthy environment which is commonly viewed as a fundamental human right even if left unstated. To quote Professor Rodriguez-Rivera once again:

[T]he proliferation of international environmental law instruments during the last [several] decades must be explained by something more than a mere assertion that states' participation in this process has been motivated by economic or political self-interest. Most international environmental law instruments do not offer states obvious economic or political gains. On the contrary, most of these instruments impose economic and political liabilities, which are the inevitable trade-offs associated with global environmental protection. States are not in the practice of entering into international legal instruments that limit their sovereignty in the absence of recognized legal or moral duties to do so.¹¹⁵

¹¹¹ *Supra* note 11.

¹¹² Committee on Economic, Social and Cultural Rights, 29th Sess., Nov. 11-29, 2002, Agenda Item 3, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights, 29th Sess., Geneva, Nov. 11-29, 2002, Agenda Item 3, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights, General Comment No. 15 (2002), E/C.12/2002/11, para. 1, Jan. 20, 2003, [http://www.unhcr.ch/tbs/doc.nsf/0/a5458_d1d1bbd713fc1256cc400389e94/\\$FILE/G0340229.pdf](http://www.unhcr.ch/tbs/doc.nsf/0/a5458_d1d1bbd713fc1256cc400389e94/$FILE/G0340229.pdf) (accessed Nov. 28, 2010).

¹¹³ G.A. Res. 64/292, at 45, U.N. GAOR 64th Sess., Supp. 49, vol. III, U.N. Doc. A/6449, (July 28, 2010) *reprinted in* III BASIC DOCUMENTS, *supra* note 5, at III.S.8.

¹¹⁴ *See* Press Release, U.N. Environment Programme, New Guidelines Will Reduce Hazards Posed by Plastic Wastes, Jan. 18, 2002, <http://www.basel.int/press/pr1-02%20basel%20tech%20legal%20wgs%20conclusions.pdf> (accessed Nov. 28, 2010). The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, may be found at 1673 UNTS 57, *reprinted in* 28 I.L.M. 657 (1989) and V BASIC DOCUMENTS, *supra* note 5, at V.I.11.

¹¹⁵ Rodriguez-Rivera, *supra* note 87, at 27.

“Therefore,” Rodriguez-Rivera concludes, “the exponential growth of international environmental law instruments, *in and of itself*, evinces the existence of the expansive [i.e., autonomous] right to environment.”¹¹⁶

At the same time, it must be borne clearly in mind that, at this writing, there exists no global treaty—only two on the regional plane—that proclaims the right to a clean and healthy environment as an autonomous right per se. Nor has any treaty-body or other authorized decision-maker on the global plane ever ruled in this way as yet. At the global level, the human right to a clean and healthy environment as an autonomous right exists, if at all, in customary international law informed mostly by “soft law” communications, i.e., communications that tend to be more aspirational than justiciable in character, especially where powerful market economies are involved. The precise legal status of this right as a governing *global* norm of international law is, thus, ambiguous.

2. Recognition on the Regional Plane

On the regional plane, the autonomous right to a clean and healthy environment is more clearly recognized, thanks in part to two treaty endorsements. In 1981, the former Organization of African States (now the African Union) adopted the Charter on Human and Peoples’ Rights (or Banjul Charter),¹¹⁷ Article 24 of which provides that “[a]ll peoples shall have the right to a general satisfactory environment favorable to their development.”¹¹⁸ In 1988, the states party to the 1969 American Convention on Human Rights¹¹⁹ adopted the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights,¹²⁰ Article 11 of which provides that “[e]veryone shall have the right to live in a healthy environment . . .” and that “the States Parties shall promote the protection, preservation, and improvement of the environment.”¹²¹

But recognition of the right to environment on the regional plane extends beyond these two treaties. For example, at the 12th Annual meeting of the Advisory Council of Jurists (“ACJ”) of the Asia Pacific Forum (“APF”) in September 2007, the ACJ explored several key questions regarding the interrelation of the environment and human rights and analyzed existing international law doctrines, principles, and rules principles bearing on the subject. It thereafter advocated that a healthy environment should no longer be viewed as simply an “add-on” to the right to life or health, but should be understood as a stand-alone human right and to be protected as such.¹²² Instances such as this are many.¹²³

¹¹⁶ *Id.* (emphasis added)

¹¹⁷ *Supra* note 10.

¹¹⁸ The Banjul Charter did not enter into force until 1986, and of course applies only to the states party to it, 53 states at this writing.

¹¹⁹ *Supra* note 11.

¹²⁰ *Supra* note 11 (also known as the “Protocol of San Salvador”).

¹²¹ The Additional Protocol did not enter into force until 1999, and of course applies only to the states party to it, 15 states at this writing.

¹²² ASIA PACIFIC FORUM, HUMAN RIGHTS AND THE ENVIRONMENT: FINAL REPORT AND RECOMMENDATIONS 33 (2007), also available at http://www.asiapacificforum.net/support/issues/acj/references/right-to-environment/listing_content/downloads/environment/final_report_recommendations.doc (accessed Sept. 30, 2011) (“The [Advisory

It is, however, within the legal framework of the European Union where the existence of an autonomous right to a clean and healthy environment is most pronounced, beginning, it appears, with the 1998 Aarhus Convention.¹²⁴ An initiative of the U.N. Economic Commission for Europe signed and ratified by 39 European and Central Asian states plus the European Community within ten years, its Preamble records unequivocally that its states parties recognize “that adequate protection of the environment is essential to human well-being and the enjoyment of basic human rights, including the right to life itself.” It also declares “that every person has the right to live in an environment adequate to his or her health and well-being, and the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations . . .”

After the conclusion of the Aarhus Convention, the Presidents of the European Parliament, the Council, and the Commission of the European Council quickly adopted the European Union’s Charter of Fundamental Rights.¹²⁵ This Charter was initially proclaimed on December 7, 2000 and then again (with minor changes not relevant here) on December 12, 2007, in anticipation of the December 13, 2007, Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community¹²⁶ (following the debacle of the previously proposed E.U. constitution). Pertinent is Charter Article 37 (“Environmental Protection”) providing that “[a] high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union *and ensured in accordance with the principle of sustainable development.*”¹²⁷ That language is embraced by Article 6(1)(1) of the Lisbon Treaty which, in turn, provides that the Union “recognizes the rights, freedoms and principles set out in the Charter of Fundamental Rights . . . as adapted at Strasbourg on 12 December 2007, *which shall have the same legal value as the Treaties*”¹²⁸ (a reference to the Maastricht and Rome treaties). While Charter Article 37 speaks of duty rather than right, it is not unreasonable to assume, in the wake of the Aarhus

Council of Jurist’s] primary recommendation therefore is that [National Human Rights Institutions] advocate the adoption and implementation of a specific right to an environment conducive to the realisation of fundamental human rights.”).

¹²³ See EARTHJUSTICE, ENVIRONMENTAL RIGHTS REPORT 2008: HUMAN RIGHTS AND THE ENVIRONMENT (2008), also available at <http://earthjustice.org/sites/default/files/library/reports/2008-environmental-rights-report.pdf> (accessed Sept. 30, 2011) (detailing measures protecting environmental rights by international, regional, and domestic institutions) [hereinafter “EJ Report 2008”]. Similar reports from previous years, detailing past environmental-rights-protection measures, may be accessed at <http://earthjustice.org/features/human-rights-and-the-environment> (accessed Sept. 30, 2011).

¹²⁴ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998, 2161 UNT.S 447, reprinted in 38 I.L.M. 517 (1999) and V BASIC DOCUMENTS, *supra* note 5, at V.B.18.

¹²⁵ Charter of Fundamental Rights of the European Union, Dec. 12, 2007, 2007 OJ (C 303/1).

¹²⁶ 2007 OJ (C 306/01), reprinted in I BASIC DOCUMENTS, *supra* note 5, at I.B.13g; see also Treaty on European Union (a/k/a “the Treaty of Maastricht”), 1992 OJEC C191, reprinted in 31 I.L.M. 253 (1992) and I BASIC DOCUMENTS, at I.B.13a; Treaty Establishing the European Community (Consolidated Version, a/k/a “the Treaty of Rome”), 1992 OJ (C 340), reprinted in 37 I.L.M. 56, 79 (1998) and I BASIC DOCUMENTS, at I.B.13d. The Rome Treaty was renamed the Treaty on the Functioning of the European Union, 2008 OJ (C 115/47), reprinted in I BASIC DOCUMENTS, at I.B.13h.

¹²⁷ Emphasis added.

¹²⁸ Emphasis added.

Convention especially, that the drafters had in mind a fully autonomous right to environment as a opposed to merely a derivative one. This is no small matter considering that, by virtue of Lisbon Treaty Article 6(1)(1), Charter article 37 acquired legally binding and arguably constitutional status and potentially greater flexibility for not having been incorporated into the Treaty of Lisbon.¹²⁹ It is not unreasonable to assume either that, as Professor Collins has astutely discerned, “the ambiguity as to the rights aspect of this provision would presumably allow courts to adopt either an anthropocentric or an eco-centric approach, since the provision does not specify the source of the duty,”¹³⁰ particularly in light of the Pachamama (Earth Goddess or Mother Earth) Movement now emerging in Latin America.¹³¹ As of this writing, however, we find no legislative or judicial evidence that an eco-centric right to environmental protection and preservation has taken hold in European Union jurisprudence per se.

At the same time, we do find important developments that support an autonomous right to environment interpretation of Charter Article 37. In June 2003, the Council of Europe’s Parliamentary Assembly, said to be “one of the most powerful legislatures in the world,”¹³² recommended: first to the governments of the Council’s member states, that they “recognise a human right to a healthy, viable and decent environment which includes the objective obligation for states to protect the environment, in national laws, preferably at constitutional level”;¹³³ and second to the Council’s Committee of Ministers (the Council’s decision-making body), that it “draw up an additional protocol to the European Convention on Human Rights concerning the recognition of individual procedural rights intended to enhance environmental protection, as set out in the Aarhus Convention . . .”¹³⁴ Additionally, in a case involving criminal sanctions for environmental offenses, the highest court in the European Union, the Luxembourg-based European Court of Justice, took pains to underscore that “it is common ground that protection of the environment constitutes one of the essential objectives of the Community.”¹³⁵ Also noteworthy in this case, arguably even more so,

¹²⁹ An informed observer explains: “This new approach deliberately avoids the appearance of a Constitution. . . . [I]t avoids the very odd situation of including two preambles in one Treaty Instead, the reference . . . to the Charter as a separate constitutional document gives the Charter an independent existence and may even allow other Organisations or States to refer to it as a binding instrument. As Article 6, para. 1, clause 1 . . . expressly gives the Charter ‘the same legal value as the Treaties,’ all its merits as a Constitutional document for the EU, thus, are preserved, and its independent existence even allows it to be used as a more general reference for fundamental rights.” Ingolf Pernice, *The Treaty of Lisbon and Fundamental Rights* (Walter Hallstein-Institut Paper 7/08), in *THE LISBON TREATY: EU CONSTITUTIONALISM WITHOUT A CONSTITUTIONAL TREATY?* (Stefan Griller & Jaques Ziller eds., 2008), <http://www.judicialstudies.unr.edu/JSSummer09/JSPWeek1/Pernice%20Fundamental%20Rights.pdf> (accessed Nov. 28, 2010).

¹³⁰ Collins, *supra* note 96, at 143.

¹³¹ See Cormac Cullinan, *Wildlaw: Protecting Biological and Cultural Diversity* 183-189 (2d ed. 2011) (discussing the rise of the Pachamama movement in Latin America).

¹³² Statement of Professor David Farrell, Head of the School of Social Sciences at The University of Manchester, <http://www.europarl.europa.eu/sides/getDoc.do?language=EN&type=IM-PRESS&reference=20070615IPR07837> (accessed Nov. 28, 2010).

¹³³ Council of Europe Parliamentary Assembly Recommendation 1614 (2003), *Environment and Human Rights*, <http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta03/EREC1614.htm> (accessed Nov. 28, 2010).

¹³⁴ *Id.*

¹³⁵ Case C-176/03, *Commission of the European Communities v. Council of the European Union*

is a section of the Opinion of Advocate General Ruiz-Jarabo Colomer entitled, “The right to an acceptable environment and public responsibility for its preservation.” The essence of this section is strong affirmation of the existence of an autonomous *collective* right to a clean and healthy environment consistent with the principle of sustainable development.¹³⁶ While not specifically referenced by the Court of Justice, the Advocate General’s Opinion is instructive as well as informative.

But most importantly in the European context, it appears, is the opinion of the European Court of Human Rights in *Taskin and Others v. Turkey*, a previously cited case dismissed on procedural grounds. The case demonstrated the legitimacy of the right to respect for family life and privacy as a basis for deriving protection from environmental harm.¹³⁷ In addition to accepting seemingly without question the propriety of the complainants asserting as well their “right to live in a healthy, balanced environment” per Article 56 of the Turkish Constitution,¹³⁸ the Court relied upon the

(Sept. 13, 2005), para. 41, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX: 62003J0176:EN:HTML> (accessed Nov. 28, 2010).

¹³⁶ *Id.* Stated the Advocate General, in part:

66. The concepts “sustainable development” and “quality of life” used in the EC Treaty [i.e., the Maastricht Treaty, *supra* note 190] occur closely linked with that of the “environment,” alluding to a human dimension which cannot be overlooked when mention is made of protecting and improving the environment. In the geophysical medium which our natural surroundings represent, quality of life asserts itself as a citizenship right emanating from various factors, some of them physical (the rational use of resources and sustainable development) and some more intellectual (progress and cultural development). It is a matter of attaining dignity of life in qualitative terms, once the quantitative threshold sufficient for subsistence has been passed.

67. There thus emerges a right to enjoy an acceptable environment, not so much on the part of the individual as such, but as a member of a group, in which the individual shares common social interests [e.g., class action suits]. A number of constitutions of Member States of the Community at the time the contested Framework Decision was approved recognise that right. . . .

68. Supplementing that right are the correlative duties on public authorities [as stipulated in the basic laws or constitutions of, e.g., Finland (art.20), Germany (art. 20a), Greece (art. 24.1), Italy (art. 9.2) Netherlands (art. 21), Portugal (art. 9e), and Spain (art. 45.2)] . . .

69. The human dimension of that environmental concern is implicitly enshrined in the European Union, whose Charter of Fundamental Rights, of 7 December 2000, after declaring in the preamble that the Union is founded on the indivisible, universal values of human dignity, freedom, equality and solidarity, includes, in the Chapter devoted to the latter, alongside employment and welfare rights, a provision explaining that its policies include and ensure a high level of environmental protection and the improvement of the quality of the environment, in accordance with the principle of sustainable development (Article 37). . . .

70. I do not want to conclude the present section without emphasising that, irrespective of how the notion of the right to enjoy an appropriate natural environment is couched, *it is easy to discern its link with the content of certain fundamental rights* [emphasis added].

To corroborate his point, the Advocate General referenced the previously noted cases decided by the European Court of Human Rights: *López Ostra v Spain*, *supra* note 33, and *Guerra and Others v. Italy*, *supra* note 34.

¹³⁷ See *supra* note 34 and accompanying text.

¹³⁸ See *infra* note 173.

rulings of Turkish courts upholding that constitutional right. In so doing, the Court rendered no small influence in the shaping of international human rights decision-making unto national constitutions and domestic court decisions similarly articulated.¹³⁹ Also significant is a section of the Court's opinion entitled, "Relevant international texts on the right to a healthy environment,"¹⁴⁰ in which the Court discusses and quotes favorably the 1992 Rio Declaration,¹⁴¹ the Aarhus Convention,¹⁴² and the June 2003 Parliamentary Assembly of the Council of Europe Recommendation 1614 on environment and human rights.¹⁴³ The latter includes the Assembly's recommendation to the Council's member states that they "recognise a human right to a healthy, viable and decent environment which includes the objective obligation for states to protect the environment, in national laws, preferably at constitutional level." As we observe in the next Subsection, this recommendation has not gone unnoticed.

3. Recognition on the National Plane

As implied, the story on the national plane confirms the propensity of policy- and decision-making on the regional plane to recognize an autonomous right to a clean and healthy environment and well beyond what so far has transpired on the global plane. While not yet universally recognized, the right to a clean and healthy environment appears to have established itself as an autonomous right in the constitutions, laws, and judicial decisions of many countries worldwide.

A convenient if somewhat dated overview of the constitutional state of affairs is found in a 2005 "Environmental Rights Report" of Earthjustice, a leading non-profit public interest law firm based in California dedicated to protecting the earth "and to defending the right of all people to a healthy environment."¹⁴⁴ The Report summarizes:

Of the approximately 193 countries of the world, there are now 117 whose national constitutions mention the protection of the environment or natural resources.¹⁴⁵ One

¹³⁹ For extended discussion about constitutional provisions guaranteeing an autonomous right to environment, *see infra* Subsection 2, next.

¹⁴⁰ Taskin, *supra* note 34, at paras. 98-100.

¹⁴¹ *Supra* note 65.

¹⁴² *Supra* note 124.

¹⁴³ *Supra* note 133.

¹⁴⁴ EARTHJUSTICE, ENVIRONMENTAL RIGHTS REPORT: HUMAN RIGHTS AND THE ENVIRONMENT (Materials for the 61st Session of the United Nations Commission on Human Rights, Geneva, Mar.14-Apr. 22, 2005), <http://www.earthjustice.org/sites/default/files/library/references/2005ENVIRONMENTALRIGHTSREPORTrev.pdf> (accessed Nov. 28, 2010) [hereinafter "EJ Report 2005"].

¹⁴⁵ The Report references its Appendix I listing the 117 countries (together with brief descriptions of relevant constitutional provisions): Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Benin, Bolivia, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Chad, Chechnya, Chile, China, Colombia, Comoros, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Croatia, Cuba, Czech Republic, East Timor, Ecuador, El Salvador, Equatorial Guinea, Eritrea (draft), Estonia, Ethiopia, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Guyana, Haiti, Honduras, Hungary, India, Iran, Kazakhstan, Kuwait, Kyrgyzstan, Laos, Latvia, Lithuania, Macedonia, Madagascar, Malawi, Mali, Malta, Mexico, Micronesia, Moldova, Mongolia, Mozambique, Namibia, Nepal, Netherlands, Nicaragua, Niger, North Korea, Norway, Palau,

hundred and nine of them recognize the right to a clean and healthy environment and/or the state's obligation to prevent environmental harm.¹⁴⁶ Of these, 56 constitutions explicitly recognize the right to a clean and healthy environment,¹⁴⁷ and 97 constitutions make it the duty of the national government to prevent harm to the environment.¹⁴⁸

Earthjustice appears not to have issued comparable summaries since 2005. However, comparing the foregoing 2005 summary with similar Earthjustice summaries in 2003 and 2004,¹⁴⁹

Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, São Tomé/Príncipe, Saudi Arabia, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sudan, Suriname, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yugoslavia (Serbia/Montenegro), and Zambia.

¹⁴⁶ The Report lists the following 109 countries: Afghanistan, Andorra, Angola, Argentina, Armenia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Benin, Bolivia, Brazil, Bulgaria, Burkina Faso, Cambodia, Cameroon, Cape Verde, Chad, Chechnya, Chile, China, Colombia, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Croatia, Cuba, Czech Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea (draft), Estonia, Ethiopia, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Guyana, Haiti, Honduras, Hungary, India, Iran, Kazakhstan, Kuwait, Kyrgyzstan, Laos, Latvia, Lithuania, Macedonia, Madagascar, Malawi, Mali, Malta, Mexico, Micronesia, Moldova, Mongolia, Mozambique, Namibia, Nepal, Netherlands, Nicaragua, Niger, North Korea, Norway, Palau, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, São Tomé/Príncipe, Saudi Arabia, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Suriname, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Turkey, Turkmenistan, Uganda, Ukraine, Uruguay, Uzbekistan, Venezuela, Vietnam, Yugoslavia (Serbia/Montenegro), and Zambia.

¹⁴⁷ The Report actually lists only 53 countries fitting this identification: Angola, Argentina, Azerbaijan, Belarus, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Chad, Chechnya, Chile, Colombia, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Czech Republic, Ecuador, Ethiopia, Finland, France, Georgia, Hungary, Kyrgyzstan, Latvia, Macedonia, Mali, Moldova, Mongolia, Mozambique, Nicaragua, Niger, Norway, Paraguay, Philippines, Portugal, Romania, Russia, São Tomé/Príncipe, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sudan, Togo, Turkey, Ukraine, Venezuela, and Yugoslavia (Serbia/Montenegro). However, as Serbia and Montenegro are now separately independent states with constitutions that warrant their inclusion here, and as Thailand's new 2007 constitution now makes explicit what previously was implicit (*see infra* note 153), the actual total at this writing is 55.

¹⁴⁸ The Report lists the following 97 countries: Afghanistan, Andorra, Angola, Argentina, Armenia, Austria, Bahrain, Belarus, Benin, Bolivia, Brazil, Bulgaria, Cambodia, Cameroon, Cape Verde, Chad, Chechnya, Chile, China, Colombia, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Croatia, Cuba, Czech Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea (draft), Finland, Georgia, Germany, Ghana, Greece, Guatemala, Guyana, Haiti, Honduras, Hungary, India, Iran, Kazakhstan, Kuwait, Laos, Latvia, Lithuania, Macedonia, Madagascar, Malawi, Mali, Malta, Mexico, Micronesia, Mongolia, Mozambique, Namibia, Nepal, Netherlands, Nicaragua, Niger, North Korea, Palau, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russia, São Tomé/Príncipe, Saudi Arabia, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Suriname, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Turkey, Turkmenistan, Uganda, Ukraine, Uzbekistan, Venezuela, Vietnam, Yugoslavia (Serbia/Montenegro), and Zambia.

¹⁴⁹ The Report actually lists only 53 countries fitting this identification: Angola, Argentina, Azerbaijan, Belarus, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Chad, Chechnya, Chile, Colombia, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Czech Republic, Ecuador, Ethiopia, Finland, France, Georgia, Hungary, Kyrgyzstan, Latvia, Macedonia, Mali, Moldova, Mongolia, Mozambique, Nicaragua, Niger, Norway, Paraguay, Philippines, Portugal, Romania, Russia, São Tomé/Príncipe, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sudan, Togo, Turkey, Ukraine, Venezuela, and Yugoslavia (Serbia/Montenegro). However, as Serbia and Montenegro are now separately independent states with constitutions that warrant their inclusion here, and as Thailand's new 2007 constitution now makes explicit what previously was implicit (*see infra* note 153), the actual total at this writing is 55.

and reviewing its reports from 2007 and 2008¹⁵⁰ that are otherwise replete with helpful information, it is clear that the trend is towards greater and more widespread constitutional recognition of the human right to a clean and healthy environment as an autonomous right.¹⁵¹

Substantiating this viewpoint are of course the countries listed in EJ Report 2005,¹⁵² plus at least one other in 2007,¹⁵³ that have *explicitly* recognized an autonomous right to a clean and healthy environment in their constitutive instruments. Noteworthy among them are 21 countries in Europe: Belgium,¹⁵⁴ Bulgaria,¹⁵⁵ the Czech Republic,¹⁵⁶ Finland,¹⁵⁷ France,¹⁵⁸ Georgia,¹⁵⁹

¹⁴⁹ The Report lists the following 97 countries: Afghanistan, Andorra, Angola, Argentina, Armenia, Austria, Bahrain, Belarus, Benin, Bolivia, Brazil, Bulgaria, Cambodia, Cameroon, Cape Verde, Chad, Chechnya, Chile, China, Colombia, Congo (Brazzaville), Congo (Kinshasa), Costa Rica, Croatia, Cuba, Czech Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea (draft), Finland, Georgia, Germany, Ghana, Greece, Guatemala, Guyana, Haiti, Honduras, Hungary, India, Iran, Kazakhstan, Kuwait, Laos, Latvia, Lithuania, Macedonia, Madagascar, Malawi, Mali, Malta, Mexico, Micronesia, Mongolia, Mozambique, Namibia, Nepal, Netherlands, Nicaragua, Niger, North Korea, Palau, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russia, São Tomé/Príncipe, Saudi Arabia, Seychelles, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Suriname, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Turkey, Turkmenistan, Uganda, Ukraine, Uzbekistan, Venezuela, Vietnam, Yugoslavia (Serbia/Montenegro), and Zambia.

¹⁴⁹ EARTHJUSTICE, ISSUE PAPER: HUMAN RIGHTS AND THE ENVIRONMENT (Materials for the 59th Session of the United Nations Commission on Human Rights, Geneva, Mar.17-Apr. 25, 2003), <http://www.earthjustice.org/sites/default/files/library/references/HRE-Report-2003.pdf> (accessed Nov. 28, 2010) ; EARTHJUSTICE, ISSUE PAPER: HUMAN RIGHTS AND THE ENVIRONMENT (Materials for the 60th Session of the United Nations Commission on Human Rights, Geneva, Mar.15-Apr. 23, 2004), <http://www.earthjustice.org/sites/default/files/library/references/2004UNreport.pdf> (accessed Nov. 28, 2010).

¹⁵⁰ EARTHJUSTICE, ENVIRONMENTAL RIGHTS REPORT 2007: HUMAN RIGHTS AND THE ENVIRONMENT, <http://www.earthjustice.org/sites/default/files/library/references/2007-environmental-rights-report.pdf> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123.

¹⁵¹ In a press release announcing its 2008 Report, for example, Earthjustice called particular attention to “developments that illustrate how governments and international institutions are working to establish the human right to a healthy environment” (including 119 countries whose national constitutions mention the protection of the environment or natural resources as compared to a reported 109 in 2003). Press Release, EarthJustice, Earthjustice Presents 2008 “Environmental Rights Report” to U.N., <http://earthjustice.org/news/press/2008/earthjustice-presents-2008-environmental-rights-report-to-un> (accessed Nov. 28, 2010). Additionally, in language implicitly accepting that the human right to a clean and healthy environment exists already autonomously, it counseled international, regional, and domestic governing bodies to work in cooperation “to ensure that the right to a clean and healthy environment is protected.” *Id.*

¹⁵² See *supra* note 144.

¹⁵³ See Part 12 (Community Rights) of the new 2007 Constitution of Thailand (http://www.asianlii.org/th/legis/const/2007/1.html#C03_P03 (accessed Nov. 28, 2010), in particular Section 66 which provides: “Persons assembling as to be a community, local community or traditional local community shall have the right to conserve or restore their customs, local wisdom, arts or good culture of their community and of the nation and participate in the management, maintenance and exploitation of natural resources, the environment and biological diversity in a balanced and sustainable fashion.”

¹⁵⁴ Article 23(4) of the 1994 Belgian Constitution declares that “[e]veryone has . . . the right to enjoy the protection of a healthy environment.” See http://www.servat.unibe.ch/icl/be00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 92.

¹⁵⁵ Article 55 of the 1991 Bulgarian Constitution provides that “[e]veryone shall have the right to a healthy and

Hungary,¹⁶⁰ Latvia,¹⁶¹ Macedonia,¹⁶² Moldova,¹⁶³ Montenegro,¹⁶⁴ Norway,¹⁶⁵ Portugal,¹⁶⁶ Romania,¹⁶⁷ Russia,¹⁶⁸ Serbia,¹⁶⁹ Slovakia,¹⁷⁰ Slovenia,¹⁷¹ Spain,¹⁷² Turkey,¹⁷³ and Ukraine.¹⁷⁴ In

favorable environment corresponding to established standards and norms. . . .” See http://www.servat.unibe.ch/icl/bu00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 93.

¹⁵⁶ Article 35(1) of the 1998 Charter of Fundamental Rights and Freedoms amending the 1992 Czech Republic Constitution stipulates that “[e]veryone has the right to a favorable environment.” See <http://spcp.prf.cuni.cz/aj/2-93en.htm> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 96.

¹⁵⁷ Section 20(2) of the 1919 Finnish Constitution commands that “[t]he public authorities shall endeavour to guarantee for everyone the right to a healthy environment” See http://www.servat.unibe.ch/icl/fi00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 98.

¹⁵⁸ After acknowledging that “[t]he environment is the common heritage of all human beings,” a 2004 amendment to the 1958 French Constitution (titled the “Charter for the Environment”) proclaims in its Article 1 that “[e]ach person has the right to live in a balanced environment which shows due respect for health.” See <http://www.assemblee-nationale.fr/english/8ab.asp> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 98.

¹⁵⁹ Article 37(3) of the 1995 Georgian Constitution as amended recognizes that “[e]veryone shall have the right to live in healthy environment and enjoy natural and cultural surroundings. . . .” See [http://www.venice.coe.int/docs/2004/CDL\(2004\)041-e.pdf](http://www.venice.coe.int/docs/2004/CDL(2004)041-e.pdf) (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 98.

¹⁶⁰ Article 18 of the 1949 Hungarian Constitution declares that “[t]he Republic of Hungary recognizes and shall implement the individual's right to a healthy environment.” See http://www.servat.unibe.ch/icl/hu00000_.html#A018_ (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 100.

¹⁶¹ Article 115 of the 1922 Latvian Constitution charges that “[t]he state protects everyone's right to live within a favorable environment” See <http://www.humanrights.lv/doc/latlik/satver~1.htm> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 101 (but misquoted).

¹⁶² Article 43 of the 1991 Macedonian Constitution provides that “[e]veryone has the right to a healthy environment to live in.” See http://www.servat.unibe.ch/icl/mk00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 101.

¹⁶³ Article 37(1) of the 1994 Moldovan Constitution stipulates that “[e]very human being has the right to live in an environment that is ecologically safe for life and health” See http://www.parliament.go.th/parcy/sapa_db/cons_doc/constitutions/data/Moldova/Constitution%20of%20Moldova.htm (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 102.

¹⁶⁴ Article 23 of the Montenegro Constitution proclaims that “[e]veryone shall have the right to a sound environment.” See <http://www.unhcr.org/refworld/country,,,LEGISLATION,MNE,4562d8b62,47e11b0c2,0.html> (accessed Nov. 28, 2010).

¹⁶⁵ Article 110b(1) of the 1814 Norwegian Constitution recognizes that “[e]very person has a right to an environment that is conducive to health and to natural surroundings whose productivity and diversity are preserved. . . .” See http://www.servat.unibe.ch/icl/no00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 104.

¹⁶⁶ Article 66(1) of the 1976 Portuguese Constitution pronounces that “[e]veryone has the right to a healthy and ecologically balanced human environment” See http://www.servat.unibe.ch/icl/po00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 106.

¹⁶⁷ Article 35(1) of the 1991 Romanian Constitution as amended by Constitutional Revision Law No. 429/2003 commands that “[t]he State shall acknowledge the right of every person to a healthy, well preserved and balanced environment.” See <http://aceproject.org/ero-en/regions/europe/RO/constitution-of-romania-amended-in-october-2003-1/view> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 106.

contrast to most of the remaining 34 countries (i.e., excepting Argentina, Brazil, Chile, South Africa, South Korea, and Venezuela), all possess industrially developed or developing market economies. This is a remarkable fact considering that, historically, market-based economies have not put a high premium on environmental values. Indeed, giving voice to the truism that there can be no right without a counterbalancing duty, these country's constitutional endorsements of an autonomous right to a clean and healthy environment are typically coupled with constitutional provisions underwriting the duty of the state to protect, preserve, and enhance the environment; to pay damages when environmental negligence is done; and to otherwise honor procedural environmental rights such as the right to environmental information and decisional participation.¹⁷⁵

On the other hand, it must be acknowledged that of the 21 European countries explicitly honoring an autonomous right to environment, only six are of long-standing capitalist tradition of some sort (most are former Soviet socialist republics); and among them are not to be found, except for France, any Western European industrial power that enjoys G-20 membership.¹⁷⁶ Indeed, of the entire group of 55 countries, only seven G-20 members are listed (Argentina, Brazil, France, Russia, South Africa, South Korea, Turkey). Not to be found are Australia, Canada, China, the European Union, Germany, India, Indonesia, Italy, Japan, Mexico, Saudi Arabia, the United Kingdom, and the United States; likewise 15 additional countries which, like the thirteen G-20 absentees, are , at this writing, among the world's top 33 economies as determined by the International Monetary Fund

¹⁶⁸ Article 42 of the 1993 Russian Constitution pronounces that “[e]veryone has the right to a favorable environment . . .” See http://www.servat.unibe.ch/icl/rs00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 106.

¹⁶⁹ Article 74 of the 2006 Serbian Constitution declares that “[e]veryone shall have the right to [a] healthy environment . . .” See http://www.srbija.gov.rs/cinjenice_o_srbiji/ustav_odredbe.php?id=218 (accessed Nov. 28, 2010).

¹⁷⁰ Article 44(1) of the 1992 Slovak Constitution provides that “[e]veryone has the right to an auspicious environment.” See http://www.servat.unibe.ch/icl/lo00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 107 (but misquoted).

¹⁷¹ Article 72(1) of the 1991 Slovene Constitution stipulates that “[e]veryone has the right in accordance with the law to a healthy living environment” (but misquoted). See http://www.servat.unibe.ch/icl/si00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 107 (but misquoted).

¹⁷² Article 45(1) of the 1978 Spanish Constitution declares that [e]veryone has the right to enjoy an environment suitable for the development of the person . . .” See http://www.servat.unibe.ch/icl/sp00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 108.

¹⁷³ Article 56 of the 1982 Turkish Constitution provides that [e]veryone has the right to live in a healthy, balanced environment.” See http://www.servat.unibe.ch/icl/tu00000_.html (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 110.

¹⁷⁴ Article 50 of the 1996 Ukrainian Constitution stipulates that “[e]veryone has the right to an environment that is safe for life and health . . .” See <http://www.rada.gov.ua/const/conengl.htm#r2> (accessed Nov. 28, 2010); EJ Report 2008, *supra* note 123, at 110.

¹⁷⁵ Regarding procedural environmental rights, see *infra* Subsection C.

¹⁷⁶ Norway, one of the largest contributors to United Nations and World Bank development programs, has never been invited to become a member of the G-20.

(IMF)¹⁷⁷ —Austria, Cyprus, Denmark, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Luxembourg, Malta, the Netherlands, New Zealand, Singapore, Sweden, Switzerland, and Taiwan. Noticeably absent as well are the oil-rich exporting states of the Middle East, Africa, and Southeast Asia (in contrast to oil-rich but economically diverse Norway, Russia, and Venezuela). This is not to infer that all of these countries are not friendly towards the environment.¹⁷⁸ Indeed, those that are members of the European Union can claim commitment to an autonomous right to environment by virtue of the above-noted favorable E.U. jurisprudence that has evolved in this regard in recent years.¹⁷⁹ It is, however, to suggest a possible explanation for resistance to an autonomous human right. Such countries may have a disinclination to establish a preemptive if not absolute norm that can be understood potentially to redefine significantly an economy's relationship to the natural world—a theme to which we return in Subsection B and Part IV, *infra*.

Elsewhere in the world, particularly in Africa, Eastern Europe, and Latin America (in that order), constitutional support for an autonomous right to environment appears to be on the rise. The support has much the same alacrity we noted above in the national judicial decisions that have lent support to environmental claims derived from already recognized human rights such as the right to life, to health, and to respect for private and family life.¹⁸⁰ Indeed, as we stated above, national decisions that focus exclusively on any specific substantive right or cluster of such rights are now giving way to a trend that, encouraged by constitutional amendments and revisions, favors more an autonomous than a derivative right to a clean and healthy environment.¹⁸¹

Of course, a trend is not necessarily law and constitutional provisions explicitly proclaiming an autonomous right to environment do not of themselves guarantee their implementation in practice. No pedant's footnote is required to substantiate that the formal law and the operational law are not always the same. Yet, as we have noted already in passing,¹⁸² and as the above-cited Earthjustice reports make abundantly clear,¹⁸³ the vast majority of the countries that have proclaimed an autonomous right to environment in their constitutive instruments have in fact worked hard if not

¹⁷⁷ See IMF, World Economic Outlook Database (April 2010), <http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/index.aspx> (accessed Nov. 28, 2010).

¹⁷⁸ For example, according to the 2010 Environmental Performance Index each year authored by Yale University's Center for Environmental Law & Policy and Columbia University's Center for International Earth Science Information Network in collaboration with the World Economic Forum and the Joint Research Centre of the European Commission, Iceland, Switzerland, Costa Rica, and Sweden are, at this writing, the top four environmentally friendly countries in the world. See <http://epi.yale.edu/Countries> (accessed Nov. 28, 2010). The authors explain: "The 2010 Environmental Performance Index (EPI) ranks 163 countries on 25 performance indicators tracked across ten policy categories covering both environmental public health and ecosystem vitality. These indicators provide a gauge at a national government scale of how close countries are to established environmental policy goals. The EPI's proximity-to-target methodology facilitates cross-country comparisons as well as analysis of how the global community is doing collectively on each particular policy issue." *Id.*

¹⁷⁹ See *supra* text at notes 124-125.

¹⁸⁰ See *supra* text at notes 58-82.

¹⁸¹ See *supra* Subsection III.B.2; see also texts accompanying notes 57, 116-122, and 145.

¹⁸² See *supra* text at note 148.

¹⁸³ See *supra* notes 144, 149, and 150.

always successfully to ensure its effective operation—in their authorized statutes, regulations, judicial decisions, and so on. And in so doing, they have contributed to the building of a general principle of law recognized by international law jurists everywhere as a legitimate “source of law” for the rendering of international environmental law decisions which, in turn, can contribute to the state practice and *opinio juris* that makes for customary international law, binding on all states.

Still, one must take care not to exaggerate the support that exists for an autonomous right to environment on the national plane as such. Many national constitutions mention the protection of the environment or natural resources and even assert a state’s obligation to prevent environmental harm, including in countries with advanced economies. But the majority of countries that have recognized the autonomous right to environment in their constitutions and, subsequently, in their statutes, regulations, and judicial decisions are not, as noted above, from the world of advanced market economies. They are found, instead, primarily in the developing world (particularly in South Asia, sub-Saharan Africa, and South America) and among the countries of Eastern Europe formerly republics of the Soviet Union. In a highly decentralized and essentially voluntarist international legal order, this is not a recipe for juridical recognition in the most widespread sense. At the same time, insofar as regional international law creation is possible, neither should it be dismissed, as indeed we have seen in the European regional context.

C. The Human Right to Procedural Environmental Rights

Arguably the most widely recognized and entrenched of environmental rights are what have come to be known as “procedural environmental rights,” sometimes referred to as “procedural and participatory rights.”¹⁸⁴ Professor Shelton sums them up nicely: “(1) a right to prior knowledge of [potential environmental harm], with a corresponding state duty to inform; (2) a right to participate in decision-making; and (3) a right to recourse before competent administrative and judicial organs.”¹⁸⁵ She adds: “Implicit in the duty to inform [is] the state’s duty to acquire and study for dissemination all relevant information on the environmental impact of planned actions.”¹⁸⁶

It is of course easy to imagine that these three “pillars” of procedural rights (and the duties that correspond to them) derive from specific provisions of the 1948 Universal Declaration of Human Rights (UDHR) and/or the 1966 International Covenant on Civil and Political Rights (ICCPR) and its regional offspring,¹⁸⁷ and in an important sense they do. Each of these instruments themselves provide for a fair trial and other due process guarantees that can be applied to environmental disputes. However, unlike the substantive human rights pressed into

¹⁸⁴ See, e.g., Jonas Ebbesson, *Participatory and Procedural Rights in Environmental Matters: State of Play* (unpublished draft paper to the UNEP-OHCHR High-Level Meeting on the New Future of Human Rights and Environment: Moving the Global Agenda Forward, Nairobi, Nov. 30 - Dec. 1, 2009), <http://www.unep.org/environmentalgovernance/LinkClick.aspx?fileticket=vZU4Z-S4Vo%3D&tabid=2046&language=en-US> (accessed Nov. 28, 2010). For convenience, we use the more succinct phrase in lieu of the longer one.

¹⁸⁵ Dinah Shelton, *Human Rights, Environmental Rights, and the Right to Environment*, 28 STAN. J. INT’L L. 103, 117 (1991).

¹⁸⁶ *Id.*

¹⁸⁷ *Supra* notes 5 and 7.

environmental service as discussed in preceding Subsection A, this linkage has seldom been invoked in environmental law practice explicitly. Indeed, as Professor Ebbesson has observed, “with few exceptions, the term ‘right’ hardly occurs in international environmental agreements, not even when providing for access to information and public participation.”¹⁸⁸ It is more accurate, therefore, to think of these procedural rights as human rights drawn not specifically from some preexisting international human rights instrument, but, rather, implicitly from the great sweep of human experience from local to global and back again. They are not *derived* in the sense that we have used this term above. Instead, as Professor Shelton explains, they “[refer] to the reformulation and expansion of existing human rights and duties in the context of environmental protection.”¹⁸⁹

In any event, the catalogue of international legal instruments confirming the existence of procedural environmental rights is impressive. Among them are at least two so-called “soft law” instruments that arguably are contributing to the development of customary international law:

- The 1982 World Charter for Nature,¹⁹⁰ Principle 23: “All persons, in accordance with their national legislation, shall have the opportunity to participate, individually or with others, in the formulation of decisions of direct concern to their environment, and shall have access to means of redress when their environment has suffered damage or degradation”; and
- The 1992 Rio Declaration,¹⁹¹ Principle 10: “Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”

Principle 10 was reaffirmed, it should be noted, by the 2002 Johannesburg Plan of Implementation adopted at the 2002 World Summit on Sustainable Development,¹⁹² suggesting, it may be argued, a consensus or building of normative expectation that translates into a general principle of customary international law.

In similar but arguably more persuasive vein may be understood the U.N. International Law Commission’s Draft Preamble and Articles on Prevention of Transboundary Harm from Hazardous Activities adopted in May 2001.¹⁹³ Not a treaty, it is nonetheless, like most of the ILC’s hard fought

¹⁸⁸ Ebbesson, *supra* note 184, at 2.

¹⁸⁹ Shelton, *supra* note 185, at 117.

¹⁹⁰ *Supra* note 15.

¹⁹¹ *Supra* note 65.

¹⁹² World Summit on Sustainable Development, Aug. 26-Sept. 4, 2002, Johannesburg Plan of Implementation, P 2, U.N. Doc A/Conf.199/L.1.

¹⁹³ Report of the International Law Commission on the Work of its Fifty-third Session, May 11, 2001, U.N.

work, juridically persuasive for having been crafted by “persons of recognized competence in international law,”¹⁹⁴ and it is from this perspective, commanding respect, that its Article 13 (“Information to the Public”) should be received:

States concerned shall, by such means as are appropriate, provide the public likely to be affected by an activity within the scope of the present articles with relevant information relating to that activity, the risk involved and the harm which might result and ascertain their views.

The principle that the public must have access to relevant environmental information and be somehow consulted appears thus to be firmly entrenched in the minds of expert international law jurists.

This conclusion is confirmed, we believe, in the numerous, mostly multilateral treaties that address particular environmental concerns with provisions granting, in diverse language and scope, one or more of the three “pillars” of procedural rights noted above. For example, as Professor Ebbesson points out,¹⁹⁵ Article 6 of the 1992 United Nations Framework Convention on Climate Change (UNFCCC);¹⁹⁶ Article 5(d) of the 1994 United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD);¹⁹⁷ Article 10(e) of the 1997 Kyoto Protocol to the UNFCCC;¹⁹⁸ and Article 10 of the 2001 Stockholm Convention on Persistent Organic Pollutants¹⁹⁹ all call upon their states parties to facilitate citizen access to information about, and to engage and facilitate citizen participation in, the efforts to combat the environmental hazards to which each is specialized. These commitments to information and participation, set forth in a general way, are seen too, but with greater specificity, in the 1992 Convention on Biological Diversity (CBD),²⁰⁰ the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals

GAOR, 56th Sess., Supp. No. 10, at 370, U.N. Doc A/56/10 and Corr. 1; G.A. Res 62/68 (Annex), at 512, U.N. GAOR, 62nd Sess, Supp. No. 49, vol. I, U.N. Doc A/62/49 (2008), reprinted in V BASIC DOCUMENTS, *supra* note 5, at V.J.17.

¹⁹⁴ Statute of the International Law Commission, Nov. 21, 1947, G.A. Res 174, at 105, U.N. GAOR, 2d Sess., U.N. Doc. A/519, art. 2(1).

¹⁹⁵ *Supra* note 184.

¹⁹⁶ May 9, 1992, 1771 UNTS 107, reprinted in 31 I.L.M. 849 (1992) and V BASIC DOCUMENTS, *supra* note 5, at V.E.19. The UNFCCC boasts 195 states parties at this writing.

¹⁹⁷ June 17, 1994, 1954 UNTS 3, reprinted in 33 I.L.M. 1328 (1994) and V BASIC DOCUMENTS, *supra* note 5, at V.G.4. The UNCCD boasts 194 states parties at this writing.

¹⁹⁸ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, FCCC/CP/1997/7/Add.1, reprinted in 37 I.L.M. 32 (1998) and V BASIC DOCUMENTS, *supra* note 5, at V.E.20d. The Kyoto Protocol boasts 192 states parties at this writing.

¹⁹⁹ Stockholm, Swed., May 22-23, 2001, Final Act, U.N. Doc. UNEP/POPS/ CONF/4 (June 5, 2001), also available at <http://chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-COP-CONVTEXT.En.pdf> (accessed Sept. 30, 2011), reprinted in; 40 I.L.M. 532 (2001) and V BASIC DOCUMENTS, *supra* note 5, at V.E.20c.

²⁰⁰ *Supra* note 45.

and Pesticides in International Trade,²⁰¹ and the 2000 Cartagena Protocol on Biosafety to the CBD.²⁰² Additionally, access to information, albeit limited for security reasons to what is needed for protection against radiological emergency, is required by the 1994 IAEA Convention on Nuclear Safety²⁰³ and the 1997 IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.²⁰⁴

All of the foregoing instruments, be it noted, are global in scope. To these and for like purpose may be added numerous environmental treaties on the regional plane, providing public access to information, participation in decision-making, and access to review procedures in varying combination and priority, sometimes without reference to the idea or language of rights.²⁰⁵ For example, Article 3(8) of the 1991 Espoo Convention,²⁰⁶ the purpose of which is “to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities,”²⁰⁷ requires the concerned states parties to “ensure that the public of the affected Party in the areas likely to be affected be informed of, and be provided with possibilities for making comments or objections on, the proposed activity, and for the transmittal of these comments or objections to the competent authority of the Party of origin, either directly to this authority or, where appropriate, through the Party of origin.” However, counsels Ebbesson, “even when an agreement does not provide for a right [per se], it may nevertheless support rather than be neutral or opposing the *notion* of participatory and procedural rights in environmental matters.”²⁰⁸

Among these regional environmental agreements, one in particular stands out as worthy of special notice, to wit, the previously mentioned 1998 Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.²⁰⁹ As its

²⁰¹ Sept. 10, 1998, 2244 UNTS 337, *reprinted in* 38 I.L.M. 1 (1999) and V BASIC DOCUMENTS, *supra* note 5, at V.G.5.

²⁰² Jan. 20, 2000, 2226 UNTS 208, *reprinted in* V BASIC DOCUMENTS, *supra* note 5, at V.H.26.

²⁰³ Sept. 20, 1994, 1963 UNTS 293, *reprinted in* 33 I.L.M. 1514 (1994) and V BASIC DOCUMENTS, *supra* note 5, at V.I.6a.

²⁰⁴ Sept. 5, 1997, *reprinted in* 36 I.L.M. 1431 (1997).

²⁰⁵ *See, e.g.*, ASEAN Agreement on the Conservation of Nature and Natural Resources, July 9, 1985 (not in force at this writing), 15 J. ENVTL. L. & POL'Y 64, *reprinted in* V BASIC DOCUMENTS, *supra* note 5, at V.C.5; the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 1989 UNTS 309, U.N. Doc. E.ECE.1250, *reprinted in* 30 I.L.M. 802 (1991) and V BASIC DOCUMENTS, at V.B.15 [hereinafter “the 1991 Espoo Convention”]; Convention on Transboundary Effects of Industrial Accidents, 2105 UNTS 457 (Mar. 17, 1992); Convention on the Protection and Use of Transboundary Watercourses and International Lakes, March 17, 1992, 1936 UNTS 269, *reprinted in* 31 I.L.M. 1312 (1992) and V BASIC DOCUMENTS, *supra* note 5, at V.F.36; North American Agreement on Environmental Cooperation, Sept. 8-14, 1993, *available from* U.S. Department of State, *reprinted in* 32 I.L.M. 1480 (1993) and V BASIC DOCUMENTS, at V.C.13; USA-Mexico Agreement Concerning the Establishment of a Border Environment Cooperation Commission and a North American Development Bank, T.I.A.S. no. 12, 516, *reprinted in* 32 I.L.M. 1545. (Nov. 16 1993); the 1998 Aarhus Convention, *supra* note 124; Revised African Convention on the Conservation of Nature and Natural Resources, July 11, 2003 (not in force at this writing), *available from the African Union at* www.africa-union.org, *reprinted in* V BASIC DOCUMENTS, at V.C.16.

²⁰⁶ *Supra* note 205.

²⁰⁷ *Id.*, art. 2(1).

²⁰⁸ Ebbesson, *supra* note 184, at 2.

²⁰⁹ *Supra* note 124.

name implies, the Convention is comprehensive, embracing each of the three “pillars” of procedural environmental rights, and in considerable detail: the right to receive timely environmental information held by public authorities, coupled with the duty of public authorities collect and disseminate such information;²¹⁰ the right to participate meaningfully in environmental decision-making, including opportunity to comment on environmental matters of significance;²¹¹ and the right to a contest environmental decisions, be they substantive or procedural, before a court of law or other independent and impartial body established by law.²¹² What is more, it is couched in the language of rights, a point not lost on the Aarhus Compliance Convention Committee (ACCC) in its compliance reviews wherein it has repeatedly confirmed the Convention’s rights-based approach.²¹³ Said former U.N. Secretary-General Kofi Annan of the Convention upon its adoption, it is a “most impressive elaboration of principle 10 of the [1992] Rio Declaration”²¹⁴ and “the most ambitious venture in the area of environmental democracy so far undertaken under the auspices of the United Nations.”²¹⁵

Significantly, the Aarhus Convention can boast considerable implementation among its present 43 European and Central Asian states parties, due in part, as Professor Collins notes, to the influence, ironically, of many of the former Soviet bloc countries.²¹⁶ She writes:

Stephen Stec [Head of the Environmental Security Programme at Central European University in Budapest] notes that many former Soviet-block [sic] countries had already embraced the notion of “environmental democracy” prior to Aarhus as an aspect of transition to democracy more generally. Indeed, Stec argues that as a result of these transition-driven advances in Eastern European countries, “the Convention has had a comparatively bigger impact on the legislation of Western Europe than that of Eastern Europe.”²¹⁷

Collins then helps to clarify what some of this “bigger impact” has been within the context of the European Union.²¹⁸

The EU itself has already made substantial progress in amending its environmental legislation to accord with the Aarhus Convention. Article 6 of Directive 2003/4/EEC on public access to environmental information gives effect to Article 9(1) of the Aarhus Convention, requiring the establishment of a review process in cases of refusal to provide environmental

²¹⁰ *Id.*, arts. 4 and 5.

²¹¹ *Id.*, arts. 6-8.

²¹² *Id.*, art. 9.

²¹³ See Ebbesson, *supra* note 184, at 12.

²¹⁴ For the text of Principle 10 of the 1992 Rio Declaration, see *supra* text at note 191.

²¹⁵ Quoted at <http://www.unece.org/env/pp> (accessed Nov. 28, 2010).

²¹⁶ Collins, *supra* note 96, at 140.

²¹⁷ *Id.*, citing Stephen Stec, “Aarhus Environmental Rights” in Eastern Europe, in 5 Y.B. EUR. ENVTL. L. 1, 9 (2005).

²¹⁸ *Id.* at 140-41.

information. Article 3 3(7) of Directive 2003/35/EC on providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment, brings EU law into conformity with Article 9(2) of the Aarhus Convention concerning public participating in environmental decisions. The Proposed Directive on Access to Justice in Environmental Matters responds to Article 9(3) of the Aarhus Convention, regarding citizen enforcement of environmental laws. Finally, the Commission adopted a proposal for a regulation applying the Aarhus Convention to EU institutions, and the Ministers of Environment agreed to this proposal in December, 2004.

Thus, legislatively, the Aarhus Convention has had substantial influence in advancing procedural environmental rights—as a matter of human rights law, not hortatory policy.

This commitment to procedural environmental rights, it must be added, is found also in at least five decisions of the European Court of Human Rights, several of them cited earlier for other reasons. In *Öneryildiz v. Turkey*,²¹⁹ the Court held that the public's right to information in situations involving dangerous activities may be based on protection of the right to life. In *Guerra and Others v. Italy*,²²⁰ wherein the applicants were denied information about the risks of a hazardous industrial activity to which they were exposed, the Court determined that the right to access to information is violated when a state violates the human right to respect for family life and privacy. In *Taskin and Others v. Turkey*,²²¹ the Court reasoned that, in cases involving “complex issues of environmental and economic policy,” the failure to undertake appropriate studies, to evaluate the data explored, and to provide public access thereto would risk violating both the right to respect for family life and privacy and the right to environment (citing the Turkish Constitution). Referencing *Guerra* as well as other cases, the Court emphasized that “[t]he importance of public access to the conclusions of such studies and to information, which would enable members of the public to assess the danger to which they are exposed is beyond question.”²²² It added that concerned individuals “must also be able to appeal to the courts against any decision, act or omission where they consider that their interests or their comments have not been given sufficient weight in the decision-making process.”²²³ In *Giacomelli v. Italy*,²²⁴ the Court held that the right of individuals to appeal to courts regarding decisions, acts, or omissions detrimental to their environmental interests may be based on the right to respect for private and family life. Finally, *Zander v. Sweden*²²⁵ involved the denial of an appeal to the Swedish government challenging an authorized raising of the permissible level of cyanide in a city's water supply. The European Court of Human Rights – finding that the applicants were unable to secure judicial review by the Swedish courts though entitled by Swedish law to seek precautionary

²¹⁹ App. No. 48939/99, Eur. Ct. H.R. 2004-XII (2005), 41 Eur. H.R. Rep. 20 (Nov. 30, 2004).

²²⁰ App. No. 14967/89, Eur. Ct. H.R. 1998-I (1998), 26 Eur. H. R. Rep. 357 (Feb. 19, 1998).

²²¹ App. No. 46117/99, 2004-X Eur. Ct. H. R. 621, 42 Eur. H.R. Rep. 50 (Nov. 10, 2004); *see also supra* text accompanying notes 137-43.

²²² *Id.*, para. 119.

²²³ *Id.*

²²⁴ App. No. 599909/00, <http://cmiskp.echr.coe.int/tkp197/view.asp?item=1&portal=hbkm&action=html&highlight=Giacomelli%20v.%20Italy&sessionId=79314428&skin=hudoc-en> (2006).

²²⁵ App. No. 14282/88, 279B Eur. Ct. H. R. (ser. A) (1993).

measures against water pollution – held that the applicant’s right of access to justice under ECHR Article 6 had been violated.

We come, then, to the following conclusion: procedural environmental rights appear to enjoy authoritative recognition and support applicable as a matter of law everywhere, although most prominently in Europe and Central Asia. Perhaps most salient of these rights are the right to receive timely environmental information held by public authorities, coupled with the duty of public authorities to collect and disseminate such information. Rachel Carson put it thus in *Silent Spring*:

This is an era . . . dominated by industry, in which the right to make a dollar at whatever cost is seldom challenged. When the public protests, confronted with some obvious evidence of damaging [environmental] results . . . , it is fed little tranquilizing pills of half truth. We urgently need an end to these false assurances, to the sugar coating of unpalatable facts. It is the public that is being asked to assume the risks . . . The public must decide whether it wishes to continue on the present road, and it can do so only when in full possession of the facts. In the words of Jean Rostand,²²⁶ “The obligation to endure gives us the right to know.”²²⁷

And the right to participate in decision-making and to challenge by legal means as well!

Of course, as the applicants’ experience with the Swedish environmental authorities in *Zander* makes clear, and as Professor Shelton, citing *Zander*, has cautioned, one must take care not to be “overly optimistic . . . that a fully-informed public with rights of participation in environmental decision-making, and access to remedies for environmental harm would ensure a high level of environmental protection.”²²⁸ Shelton continues, perceptively:

Such a beneficial outcome may result, but it cannot always be assured. Democratic states as well as dictatorial regimes have adopted laws at different moments in history that have denied or restricted the enjoyment of human rights. In a democracy, such results can occur despite an informed public and an adherence to democratic process. In the environmental field, well-known problems of achieving environmental protection in the face of short term economic costs, as well as scientific uncertainty or the perception thereof, make reliance on procedure alone insufficient to ensure a safe, healthy or ecologically-sound environment.²²⁹

Still, for all the reasons stated at the outset of this essay, human rights law and policy, which “sets limits for majority rule in addition to providing guarantees against dictatorial repression,”²³⁰ is the

²²⁶ French biologist and philosopher (1894-1977), son of playwright Edmond Rostand.

²²⁷ RACHEL CARSON, *SILENT SPRING* 13 (1962). We are indebted to Professor Lynda Collins, *supra* note 96, for calling our attention to this passage.

²²⁸ Dinah Shelton, *Human Rights and Environment: Past, Present and Future Linkages and the Value of a Declaration*, at 6 (Background Paper for the High Level Expert Meeting on the New Future of Human Rights and Environment: Moving the Global Agenda Forward, Co-organized by UNEP and OHCHR, Nairobi, 30 November-1 December 2009) (unp).

²²⁹ *Id.*

²³⁰ *Id.*

best option in an imperfect world, particularly when substantive and procedural rights work together in common.

D. Summary

The foregoing review may be briefly summarized. All three of the above described manifestations of the human right to environment, however robust in their particularized applications, are essentially limited in their legal recognition and jurisdictional reach. Juridically, it is most strongly recognized in its derivative form rather than in its autonomous form. Also, it is found to exist principally in the developing worlds of Africa, Asia, and Latin America, especially when framed autonomously. There is also a growing sentiment, so far at the regional level only, to recognize procedural environmental rights, especially in Europe. But at bottom, it seems, the human right to a clean and healthy environment is likely to remain largely a moral rather than a legal claim, juridically unacceptable to the principal power brokers of the present world order even while gaining such recognition, at present at least, in the developing world. Barring some cataclysmic, game-changing event, huge economic and political forces seem likely to continue to resist this right for reasons that are, one may infer, deeply historical and philosophical.