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Part I: 2020: The Good, the Bad, and the Ugly

Sustainability as a Conceptual Focus for Public Administration

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This article argues that sustainability should define the conceptual focus for the field of public administration in the coming decade. Sustainability involves three systems: environmental, economic, and political/social systems. The challenge of governance, and thus of public administration, is to sustain each of these systems on its own while maintaining an appropriate balance among them. The article defines the sustainability concept, and its environmental component in particular, in ways that are relevant to public administration; assesses the validity of the concept in terms of the interrelationships and interdependencies among the three systems; and suggests the implications for the field. By integrating knowledge and study of the environmental system with the traditional competence in the political/social and economic systems that is expected in the field, public administrators may achieve a more theoretically complete and empirically valid foundation for education, research, and practice.

And just as many apparently insoluble problems have eluded solution until someone discovered the "right" way to view them, so it may be that our failure to cope adequately with certain large and complex problems of our time is a consequence of failure to see the unifying elements in the complexity.

—Lynton K. Caldwell, 1963

Before he was vice president, a presidential candidate, a Grammy and Oscar winner, and a Nobel Laureate, Al Gore was a U.S. senator and the author of the 1993 book *Earth in the Balance: Ecology and the Human Spirit.* Gore's thesis, as is well known, was that "we must make the rescue of the environment the central organizing principle for civilization" (1993, 269). Drawing on World War II and the Cold War as examples, Gore argued that "the establishment of a single shared goal as the central organizing principle for every institution in society has been realized by free nations several times in modern history" (270). Comparing inaction on the environment to appeasement in foreign policy, he urged that every policy and program, law and institution, treaty and alliance, tactic and strategy be used "to halt the destruction of the environment and to preserve and nurture our ecological system" (270).

In retrospect, Gore's analysis was bold, impassioned, and prescient. Yet few other political leaders were willing to embrace his arguments, at least at the level of practical politics. Indeed, during his 2000 run for the presidency, candidate Gore adopted a lower-key and more pragmatic stance than did author Gore, to the extent that some environmentalists admonished him to read his own book as a guide for his campaign.

Senator Gore was calling for a total mobilization of every resource to combat what he viewed as the most pressing challenge facing American and global institutions. Surprisingly for a career politician, Senator Gore offered little in the way of practical political advice. He made an eloquent and cogent case, but anyone wanting a blueprint for how to translate his ideas into tactics and strategy had to look elsewhere. At an intellectual level, Gore's case was compelling. But as a matter of practical politics, the case for making the environment the "central organizing principle for civilization" never got off the ground. Gore realized that bringing the earth into balance was not a winning platform for a presidential candidate. Nor, one might add, was it a principle that was relied on in practical governance and administration, then and, for the most part, now.

What Gore was writing about, of course, was one-third of what is known as *sustainable development* or *sustainability.*[1] As a concept, it is viewed with interest and even enthusiasm in many parts of the world, but still it is often greeted skeptically in the United States, especially in national politics (see Bryner 2000; Dernbach 2009; Hoornbeek 2008). The most ambitious effort to institutionalize the concept nationally came when Bill Clinton created the President's Council for Sustainable Development in 1994. Co-chaired by the chief executive officer of a multinational corporation

and the head of a major environmental group, and comprising a broad range of the typical stakeholders, the council produced thoughtful reports and offered good ideas, but had little effect on national policy or discourse (PCSD 1996). Nationally, the concept of sustainability has drawn little interest, and it is virtually absent from national political debates. Agencies such as the U.S. Environmental Protection Agency (EPA) have preferred more innocuous concepts such as "stewardship" to the more ideologically weighted idea of sustainability, with its implications of government intervention and planning.[2] Yet sustainability has drawn more interest at state and local levels, where the day-to-day demands of environmental, economic, and social governance are more compelling (see, e.g., Portney 2005, 2009; Rabe 2008).

The argument in this article is that the concept of sustainability may be used to define a conceptual focus for public administration between now and 2020. In making this case, the article has four objectives: (1) to define sustainability and its environmental dimension in particular in terms that are relevant to public administration; (2) to assess the validity of the sustainability concept in terms of the relationships among its three component systems; (3) to make a case for sustainability as a focus for the field; and (4) to suggest the implications for public administration education, practice, and research. The final section considers some likely criticisms of using sustainability in this way.

The Concept of Sustainability and Public Administration

The purpose of this article is not to debate the validity of the scores (if not scores upon scores) of definitions for sustainability that have been proposed in recent decades. To make any progress in thinking of sustainability as a focus for public administration, however, it is necessary to have a working definition of the concept. What is needed is a practical approach for comparing various levels of sustainability (the environmental part and the more general concept) as well as evaluating progress comparatively and over time.

The more common approaches to defining sustainability stress several themes. One, emphasized in a 1987 report of the World Commission on Environment and Development (WCED),[3] is that the current generation should not foreclose options for those that follow. Many of the applications of this approach are obvious, particularly for resources that cannot be replaced. To destroy a species, an old-growth forest, or a pristine piece of wilderness takes away something that future generations will not be able to replace. Contamination of resources illustrates the same point. Persistent pollutants, such as PCBs, badly tainted groundwater, dead water zones starved for oxygen off the coast of Louisiana, and lead in buildings and soil take away something of value from future generations. Although each may technically, and at great costs, be corrected, it is unlikely that these resources can be restored to their former state. Even if they could, the costs of such a restoration are so great that it is difficult to argue that the present generation is not taking a great deal of resources from, and thus foreclosing options for, later generations.

The emphasis on future generations places the time dimension at the center of the concept. Sustainability is based on the long view. The WCED definition speaks in terms of *generations,* not just that the one that immediately follows. How many generations need to be accounted for is a matter of debate. The climate change issue has forced a more explicit future orientation than most other environmental problems so far. Using Thomas Jefferson's definition of a generation as covering a few decades, it is apparent that the current generation and the next few may not bear intolerable burdens from the effects of climate change. This may change, as the evidence about those effects grows steadily more alarming, but the more devastating effects will occur later in this century and beyond. Still, the need to act to reduce the magnitude of these effects (at this point, they cannot be avoided completely) does limit the options available to the current and the next few generations. Already, governments at all levels are making choices about economic development (the form, if not the fact of it), the future of coal and other fossil fuels, patterns of transportation and land use, and a range of other pressing issues.

The WCED definition also encompasses the idea of not foreclosing options for different countries, social and ethnic groupings, and levels of affluence. Indeed, the original motivation for creating the commission was to find ways to protect the environment without closing off growth opportunities for countries in the early stages of economic development. Among the poorer countries wanting to be less poor, there was a fear that the postindustrial world, having already achieved material comfort at great cost environmentally, would suppress growth elsewhere. The core political and intellectual challenge for the WCED was to move past the idea that environmental and economic progress posed a zero sum. It was also necessary to reject the argument from limits-to-growth advocates that dramatic curbs on economic and population growth would be needed to avoid environmental devastation. The WCED tried to do this, not only by attempting to bridge the economy/environment dichotomy, but also by proposing social equity, fairness, and progress as core elements of the sustainability concept.

A major deficiency in commonly used definitions of sustainability is the narrow way in which the political/social dimension is treated. The social imperative is defined narrowly as a matter of social equity and fairness rather than as a broader one of just and effective governance. Social equity, participation, human rights, and political liberty all are highly desirable goals normatively. They surely contribute to the legitimacy and survival of political systems, but on their own, they omit the political imperative of establishing and maintaining effective systems of governance. To broaden the concept, the discussion here proceeds in terms of the concepts of the political and social systems, which include the anchors of effective governance—rule of law, core systems for governance, low levels of corruption, security and stability, political and civil liberty—as well as the social elements that have occupied the sustainability literature in the past.

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How may sustainability best be defined as a focus for public administration? A useful definition of sustainability comes from a 1997 essay by John Robinson and Jon Tinker. They view the economy, environment, and human society as "three interacting, interconnected, and overlapping 'prime systems'" (74).[4] Like most systems, these three share the characteristics of stability, resilience, and self-organization. They are stable in having the ability to limit change over time to manageable levels. They are resilient in being able to absorb and adapt to stress. All are self-organizing in their ability to search for and maintain equilibrium. Still, there are limits to any system's ability to adapt. Each is subject to stresses that threaten its survival. In 2008, for example, the crisis in financial institutions posed a major threat to the global economic system and required rapid, crisis-level responses from governments and others. Similarly, economic growth and the use of fossil fuels threatens to fundamentally and permanently alter the global climate, with major effects on ecosystems, populations, economies, and political stability. Within this systems approach, the time dimension is critical; thinking on the basis of a long time frame and in terms of intergenerational as well as cross-national equity is essential.

Because each system is crucial on its own, and yet all are interconnected, they should be viewed as defining three imperatives for collective survival. The challenge of the *ecological imperative* is "to remain within planetary biophysical capacity." This includes environmental issues as typically conceived (the three dimensions of which are discussed later). The *economic imperative* is "to ensure and maintain adequate standards of living for all people." The focus here is obviously on material well-being and security. The *political/social imperative* is "to provide social structures, including systems of governance, which effectively propagate the values people wish to live by" (Robinson and Tinker 1987, 77). This includes not only the standard social issues (equity, political freedoms, gender rights, basic education and health care, and so on), but also effective, stable, and democratic governance. Given this systems-based view of sustainability, the challenge of contemporary governance is to sustain each system internally as well as to maintain an appropriate balance among them. Table 1 lists the three systems and the imperatives that may be associated with each.

Just what it means to "sustain" each system and to "maintain" a balance among them is defined through political processes. The view taken here is that by considering the environmental system on the same conceptual level as the economic and political social systems, policies at all levels will move in the direction of environmental sustainability. The environmental imperative would, at least at a conceptual and perhaps later at a practical level, achieve parity with the economic and political/social imperatives.

Table 1 The Three Sustainability Imperatives

Human society (the political and social systems)	
	provide social and governance systems that sustain the values people wish to live by
Economy (the market system)	
	ensure and maintain adequate standards of living
Biosphere (the ecological system)	
	stay within the planet's biophysical capacity

Source: Adapted from Robinson and Tinker (1997).

Given its centrality to the argument in this article, the concept of environmental sustainability warrants further attention. It may be seen as having three elements: human health and well-being, ecosystem vitality, and resource efficiency (see Paehlke 2004, 2007). The first includes such amenities as clean air and water, adequate sanitation, safe drinking water, food safety, protection from harmful chemicals and radiation, and the like. Ecosystem vitality includes such issues as protecting habitats, preserving biodiversity, and managing stresses on water and air quality that affect more than health. The third, resource use and efficiency, covers how energy, water, and materials are used and with what effects.

The issues of climate change, energy, and water supply have brought resource efficiency to the top of the environmental policy agenda in recent years. Of course, these are analytical categories, and by no means are they distinct in practice. A large-scale problem such as climate change, for example, is caused largely by use of resources, affects ecosystem vitality directly, and poses long-term human health concerns. It also imposes stresses on the economic and political/social systems, which, in turn, affect the environment (see IPCC 2007). Still, the elements of human health, ecosystem vitality, and resource efficiency offer a useful way of thinking about the environmental system and distinguishing among its parts.

These distinctions among the three elements of environmental sustainability are important. As discussed in the next section, countries at various states of economic growth cope more or less successfully with each of them. Wealthier countries typically do much better in protecting public health, for example, but they tend to consume energy and other resources at high, arguably unsustainable rates. Poorer countries may consume less in terms of fossil fuels, but they are unable to provide such basic amenities as safe water and adequate sanitation. Absent explicit policies to protect them, growth and development in most countries poses threats to the integrity and survival of ecosystems. Table 2 provides examples of the three elements of environmental sustainability as they are considered in this article.

The assumption in this article is that environmental sustainability is a goal to which all societies should aspire. This assumption is based not only on the inherent value and desirability of environmental

Table 2 Environmental Sustainability: The Three Elements and Illustrations

Human Health and Well-Being
• Adequate sanitation
• Clean air
• Safe drinking water
• Exposure to toxics
Ecosystem Health
• Habitat protection
• Bio-diversity
• Water stress
• Climate stress
Resource Sustainability
• Water supply
• Renewable energy
• Forest resources
• Soil erosion/quality

amenities and resources for their own sake, although that certainly is critical. It is also based on the more empirical observation that failures in any one of these sustainability systems will lead to breakdowns in the others. Although the effects on failures in any one these systems on the other two are well documented, it is worth considering whether positive relationships exist among them as well. The next section considers evidence on the empirical validity of the sustainability concept.

Is Sustainability a Valid Concept?

As John Dryzek has rightly observed, "sustainable development is not proven or demonstrated but, rather, asserted" 1997, 123). It has been used extensively as a discourse and normative guide, but it has not been demonstrated as an empirically valid concept. Still, there is now a body of evidence that at least suggests an empirical foundation for the concept of sustainability. It is worth examining this evidence to assess whether sustainability has any empirical validity as a conceptual focus for public administrators.

The place to begin is with what has historically been the most contentious issue in the concept—the relationships among the economic and environmental systems. Until the 1960s, the relationships between these systems were not addressed by any society on a broad scale. The exception was preservation and conservation policies to protect land and other resources from development (on the history of U.S. policy, see Andrews 2006; on the evolution of U.S. pollution control policy, see Fiorino 2001). The environmental effects of industrialization, urbanization, and technology were not recognized broadly until the emergence of the environmental movement in the 1960s and policy and institutional changes made in the 1970s. Internationally, the Stockholm Environmental Summit and the founding of the United Nations Environmental Programme in 1972 were key events. In the United States, the enactment of the National Environmental Policy Act in 1969, the creation of the Environmental Protection Agency in 1970, and passage of the Clean Air Act (1970) and Federal Water Pollution Control Act (1972) were important milestones.

Since then, the spread of environmental institutions and policies at all levels of government has represented an effort to bring the environmental and economic systems into balance and to account for their interrelationships. The balance between them has been the core issue in policy debates for more than four decades. The sustainability concept offers a way of framing the possible inconsistencies and connections among them. If the two systems are thoroughly in conflict, however, and if the political/social system bears no connection to either as part of a larger sustainability concept, the idea of sustainability loses its value. In short, is there an empirical basis for sustainability?

It appears that there is, based on two related bodies of research. The initial empirical research addressed the economy–environment relationship. The conventional wisdom that had defined the political debate through the 1960s and 1970s was that of a zero sum—that economic growth would lead to a near-linear increase in pollution and other forms of environmental degradation.[5] Research on the growth–pollution relationship challenged this assumption. These studies revealed a more complex relationship, labeled an "environmental Kuznets curve" (EKC), in which emissions did indeed increase in the early stages of growth, but at some point began to decline absolutely and per unit of income. Contrary to the conventional wisdom, income growth seemed to produce a decoupling of growth and environmental degradation in the early EKC studies (see, e.g., Dasgupta, Hamilton et al. 2004; Dasgupta, Laplante et al. 2005; Grossman and Krueger 1995; Panayotou 1997).

The explanations for this decoupling effect combined economics and politics. The economic explanation was that as societies grow, they are able to afford environmental quality. It becomes possible to invest in catalytic converters, sulfur oxide scrubbers, sewage treatment plans, chemical testing and screening, industrial permitting, and so on. The entire pollution control structure of modern society becomes possible. The more political explanation is that once certain material needs are met, people begin to care more about the quality of their lives and of their fellow citizens. This is the basis for the "postmaterial" literature of the 1960s and the rapid rise of environmental issues on the policy agendas of industrial countries. Concerns about quality of life, health, and equity augmented (but did not replace, given the centrality of growth as a policy goal) the older and more narrowly focused concerns about economic growth and security.[6]

The results of the EKC studies need to be interpreted carefully (for a critical perspective, see Torras and Boyce 1998). The dependent variable consisted of a limited number of indicators, usually sulfur oxides/nitrogen oxides to air or discharges of organics and metals to water. This decoupling effect occurred much later in the growth process, if it occurred at all, for pollutants such as carbon dioxide, whose effects are less immediate and observable. These studies applied to a limited number of countries, mostly those that had already achieved some level of industrial development, and may not apply to nations earlier in the process of growth. In addition, documenting an association does not prove that growth on its own causes pollution to decline. This research by no means demonstrates that growth in all circumstances is consistent with environmental sustainability. It does suggest, however, that growth in some forms, and subject to the appropriate constraints and incentives, may not be inconsistent with many aspects of environmental sustainability. Economic growth and industrial development cause pollution and consume resources; something has to occur to produce this decoupling phenomenon to the extent that it exists.

It turned out that this something was democratic politics and sound governance. Later studies concluded that the salutary effects of growth on some environmental indicators were related to political capacities, which, in turn, were associated with income. More specifically, a consistent stream of research found that democratic countries were better at protecting the environment than their more authoritarian counterparts. This research suggests that rising incomes do not translate directly into better environmental performance. They do, however, create the political conditions under which citizens gain information, mobilize, vote, and otherwise press leaders to address problems (see, e.g., Barrett and Graddy 2000; Gallagher and Thacker 2008; Li and Reuveny 2006; Neumayer 2000; Payne 1995; Pellegrini 2005). Rising incomes also allow societies to achieve more political stability and better quality of governance by having a professional civil service, less corruption, stronger legal systems, more technical expertise, and so on. Strong

institutions and policies for environmental sustainability have also been associated positively with measures of economic competitiveness (Esty and Porter 2002).

With this research, the third system in the sustainability triad was engaged. Other research has linked the growth of democratic institutions with increasing prosperity (as measured by income growth; see Przeworski et al. 2000). Economic growth was shown not to be inconsistent with many forms of environmental progress and, in some cases, to be linked positively with it. Furthermore, it has been established empirically that the combination of affluence and democratic governance leads to better performance on social indicators that matter, such as the status of women, educational attainment, quality of health care, political participation, and others that make up the traditional social component of sustainability. What generally is considered to be progress in the economic, political/social, and environmental systems occurs in ways that suggest interdependencies among them.

Other sources also suggest a positive connection among the three sustainability systems. Business research has demonstrated that financial success and environmental leadership among private firms often occur together, and that strategic firms use the environment as a source of competitive advantage (see Darnall, Jolley, and Ytterhus 2007; King and Lenox 2001; Nidumolu, Prahalad, and Rangaswami 2009). Among the American states, the more affluent appear to have stronger environmental programs and quality (Hays, Esler, and Hays 1996). Scattered information at the local level suggests that prosperity and environmental quality are positively associated (see, e.g., Nelson and Peterman 2000; Portney 2007). None of this establishes causality, of course, and there is a great deal more to be learned about the interrelationships among the political/social, economic, and environmental systems. Still, the evidence suggests that there is some validity to the sustainability concept. This strengthens the case for making it a conceptual focus for public administration.

The relationship among the economic, environmental, and political/social systems is thus far more complicated than conventional thinking suggested. It appears, based on the evidence, that economic growth beyond a certain point (and perhaps before reaching another) is not antithetical to and may even be conducive to some elements of environmental protection. This relationship holds up very well for many of the health-related issues, and it appears to be valid to some degree for ecosystem protection. It is more questionable with respect to resource efficiency. This is not attributable to affluent societies being less eco-efficient (for many indicators, they are), but because economic and population growth likely will overwhelm gains in resource efficiency in coming decades.

In sum, economic growth, *to a point,* may create conditions for environmental and social sustainability by promoting democratic governance, creating demands for environmental protection, expanding institutional capacities for problem-solving, improving the quality of life (e.g., through education, health care, gender equity, political efficacy), and facilitating technology innovation. On the other hand, economic growth up to and beyond a certain point may also promote environment harm, in the early stages through pollution and at more advanced stages through high levels of consumption. What is clear is that government must consciously intervene at some point (and the longer it waits, the more disruptive that intervention will be), and that conceptions of economic growth as an overriding goal may have to be modified if societies are to sustain the three systems and maintain a balance among them (an excellent discussion can be found in Victor 2008). Public administrators should be actively engaged in these discussions and the process for translating them into action.

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The Case for Sustainability and Public Administration

The most obvious case for making sustainability a conceptual focus for the field of public administration is the overriding importance of the environmental imperative.

Since the 1960s, most governments and global institutions have been struggling with the challenge of maintaining the environmental system on a par with the economic one. Until the 1990s, this struggle consisted largely of managing the presumed zero-sum relationships among the two systems. Since the 1990s, there has been more interest in searching for complementarities and synergies among them. A substantial literature has grown up around the number of proven and potential opportunities for win–win relationships. These include, among others, opportunities for economic efficiency from better resource pricing and pollution prevention; the innovation benefits of pushing for cleaner production; improved health and social welfare as a result of lower pollution and more environmental amenities; the benefits of ecosystem protection; national security gains from reducing dependence on imported oil and maintaining political stability globally; and less costly environmental cleanup and remediation in the long term (for a sampling of this extensive and wide-ranging literature, see Costanza et al. 1997; Fiorino 2006; Hawken, Lovins, and Lovins 1999; Matthew 2009; Pearce and Barbier 2000; Porter and van der Linde 1995). This transition from *environmental protection* (presuming the zero sum) to *environmental sustainability* (recognizing and seeking complementarities and synergies) has proceeded further in many other countries than in the United States, but it is apparent even here and is reflected in the ongoing policy debates on the green economy, green jobs, smart growth, local and urban sustainability, and other issues.[7]

One does not have to be an environmental doomsdayer or an ecological pessimist to recognize the many threats to the environmental system and the implications for the social/political and economic systems. The consequences of global climate change as a result of fossil fuels are well established. Among others, they include sea level rise, extreme weather events, changes in disease patterns, and disruptions in agricultural production. Issues of water quality and supply plague many parts of the world, as do such basic threats as deforestation, desertification, damage to critical ecosystems, persistent and bio-accumulative chemicals, urban air pollutants, overdevelopment, and a range of other problems. To ignore these threats and their consequences not only for the environmental but also the economic and social systems in the long run is risky and, at some point, futile.

The inescapable logic of environmental sustainability, and the implications for economic and political/social sustainability, offers the strongest case for making sustainability a conceptual focus for public administration. Even beyond this, however, the idea of sustainability itself—and its value in defining a framework for structuring, evaluating, and making choices—has much to offer. The sustainability concept is comprehensive, analytical, normative, and flexible. These attributes of the concept offer promise for orienting and guiding the field of public administration over the next decade.

The sustainability concept is comprehensive, because it encompasses the major policy issues that are seen as being relevant to the field. Placing the environmental system on a level with the political/social and economic ones brings the concerns of the field under one conceptual umbrella. Public administration starts with politics and governance, where collective choices are determined and carried out. It extends to the design and operation of economic systems. Public administrators need not only be concerned about operational issues, such as raising revenue and managing budgets strategically, but also with the larger success of the economic system, on which the legitimacy of the political/social system ultimately relies. By elevating environmental issues to the level of economic and political/social ones, the field expands to incorporate the third system on which our collective survival depends. The sustainability concept is not only all-encompassing but also integrating, because it requires that choices be made in the context of interrelationships and interactions among the three systems. Any issue that modern societies face, from the use of natural resources, to the regulation of financial institutions, to local zoning, to the pricing of water resources, to the relationship of economic factors, to the capacity for governance may be incorporated within a sustainability framework.

The concept is analytical, because it defines a framework for framing, evaluating, and making the kinds of choices that are central to public administration. A common criticism is that the sustainability concept is too vague to be useful in decision making. It does not tell us, for example, how much growth is possible, what form growth should take, or whether growth is feasible at all given the environmental imperative. Nor is it much use, it could be argued, in prescribing how to reconcile the needs of the developing world with those of postindustrial nations, or how social equity should be balanced with economic efficiency. These criticisms miss the point. No concept can prescribe choices; there is no one theory of or path to sustainable development. What the sustainability concept should and can do is define a framework for decision making. It does this by structuring issues, such as those just described; by helping to identify conflicts, complementarities, and synergies among the systems; and by laying out a context for measuring and evaluating progress within and among the three sustainability systems.

The normative aspects of the concept also offer value. Whether public administration should have goals other than such abstract ones as efficiency, equity, accountability, responsiveness, and so on may be debated endlessly. In practice, it is fair to say that economic growth and development generally are taken as substantive goals to which administrators at all scales of governance are committed in some form. To be sure, there are differences among jurisdictions, depending on political values, income levels, leadership, and other factors. Many local governments have tempered the impulse to be a "growth machine" and to seek "to manage economic growth and development to be more consistent with their visions of what kind of community they desire" (Portney 2003, 101). In such areas, the value premises under which administrators operate surely will be more favorable to a sustainability focus. In other settings, public administrators will at least be in a better position to conduct analyses, devise indicators, evaluate options, and advise policy makers in ways that expand the factual premises for decision making; they may identify a broader set of options and effects than a narrow focus on economic growth would entail. As a set of normative principles, sustainability has much to recommend it. If we accept that the goal of government (and public administration) is to promote the well-being of citizens, sustainability is a way to define and measure progress toward that goal.

A fourth advantage is the flexibility of the concept. It may be applied usefully at any scale of governance. The typical scales of governance to which the study of public administration traditionally has applied are local, state/provincial, regional, national, and global.[8] Environmental governance is studied and practiced at these levels, plus others that make sense given the boundaries of environmental problem solving. At the local scale, for example, public administrators face the challenges of land use, economic development, transportation, energy and water supply and costs, recreational amenities, and many others. Each of these issues involves a mix of environmental, economic, and social choices that may usefully be pursued within a sustainability framework. Although the specific issues and roles will differ, the other scales of governance pose challenges and opportunities that may be framed and analyzed within a sustainability context. This flexibility offers advantages not only in working within the scales of governance defined by traditional political boundaries, but also in managing environmental problems and resources that do not fall within such boundaries. Regional governance institutions for the Chesapeake Bay, the Great Lakes, the South Coast Air Quality District, and the Regional Greenhouse Gas Initiative illustrate some of many scales of environmental governance.

Implications for Education, Practice, and Research

A public administration organized around sustainability by 2020 will look slightly, though not radically, different from how it looks now. These differences will affect various aspects of education, practice, and research in the public administration field.

It is fair to say that sustainability as a concept and goal has not garnered much influence in public administration. Topics of environmental sustainability are seen as a matter of individual emphasis rather than as central to the field. It is an option that reflects an opportunity for students to concentrate in particular policy (health care or defense) or functional (budgeting, contracting, or planning) specialties, but not a core area of study comparable to administrative processes or economic policy and analysis. For practitioners, an appreciation of the concept and awareness of sustainability depends on the job and the policies of the jurisdiction or organization. Although research in public administration has given some attention to sustainability issues, it does not reflect their importance in the overall processes for governance and administration.

This is not to say that American society or the field of public administration has not drawn increasing attention since Lynton

Caldwell published his 1963 essay calling for recognition of the concept of the environment. Governments around the world have passed laws and created institutions for protecting the environment. Public acceptance of environmental values is far more established than in the 1960s. Scientific and institutional capacities are much more developed. Within public administration and policy, there has been similar growth in interest and capacities. Many universities have created schools of environmental affairs; others offer advanced environmental policy programs or integrated science and policy degrees. The American Society for Public Administration created its Section on Environmental and Natural Resources Administration nearly three decades ago. A substantial academic literature has grown up around such topics as environmental and natural resource management, the design of institutions and policies, environmental conflict resolution, and collaboration and public engagement. Much of the history and many of the building blocks for refocusing the field exist. What is missing is a commitment to incorporating the environmental system into the mainstream of the field, so that it is on a level with the economic and political/social systems.

Public administration training in the United States combines theory, skills, and content. The theoretical training encompasses the vital issues of organizational design and behavior, bureaucratic politics and strategy, patterns of authority and relationships, sources of bureaucratic pathologies, and the like. Training on skills tends to focus on managing and leading people, preparing and executing budgets, developing and articulating missions, communicating, implementing, and evaluating, among others. Content education includes training in politics/governance and economics and whatever specific policy issues are of interest (health, education, defense, and so on). Topics of environmental sustainability (environmental, energy, transportation, resource management, public health) are treated as optional content areas that reflect student interests and course availability. This has served as a sound working model for the field.

Public administration education organized around the sustainability concept will have to be modified, however. The most important difference is that the environmental dimension will need to be placed on an equal footing with the politics/governance and economic dimensions of sustainability. Just as we expect master of public administration and public policy graduates to have a basic competence in such political topics as the constitutional framework, government organization, multilevel governance, administrative law, and democratic accountability, so would we expect a basic knowledge of such topics as ecosystem management, energy systems, and biodiversity. In addition to understanding macroeconomic policy making and economic indicators and trends, we would want trained public administrators to have a grasp of such topics as industrial ecology, risk assessment, methods of environmental conflict resolution, and tools for controlling and preventing pollution, among others (see, e.g., the topics covered in O'Leary et al. 1999). The three systems of the sustainability concept should be seen as being equally important to claiming a competence in the field.

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These changing expectations regarding the education of public administrators should lead to different kinds of performance in practice. Many of the competencies needed for a public administration that is guided by the concept of sustainability already are captured in much of the New Public Administration. Building and managing more adaptable and dynamic organizations, creating and using networks, finding ways of engaging and educating citizens, applying market-based tools, measuring results, and integrating policy areas—all of these will be important. Beyond these strategies and skills, however, are areas of knowledge and competence that public administrators could apply in practice. Among these are an appreciation of the relationships among economic and environmental policies, experience in framing and discussing technical issues with citizens, an ability to analyze the environmental consequences of economic decisions (and vice versa), and skill in devising and using various environmental, social, and economic indicators as tools of the administrator's trade. At the local level, for example, the principles and methods of smart growth should become standard knowledge for people in policy making, senior administrative positions, and economic development (Hempel 2009).

What effects would these changes in training and competencies have in the practical world of administration and governance? As every student of the field knows, administrators do far more than just carry out the policies defined by legislators and top executives. Public administrators exercise discretion, interact with citizens, design and conduct policy analyses, advise legislators and political executives, engage stakeholders, build partnerships, and influence policy choices and outcomes in many other ways. A greater appreciation of sustainability brings a wider set of values and, more importantly, a broader set of analytical tools, skills, and indicators into the administrative process. It brings sustainability into the real world of governance and politics in very concrete ways.

Incorporating the concept of sustainability into the field of public administration raises issues about the role of professionals in government and their relationships with political executives. The balancing of environmental and social goals with economic agendas varies greatly across jurisdictions. For areas in which political leaders "take sustainability seriously," to use Kent Portney's term, administrators committed to sustaining all three systems and maintaining an appropriate balance among them will find willing principals. For areas in which sustainability is taken less seriously, administrators will find a less sympathetic audience among the political leadership. Still, they may be in a position to offer perspectives, arguments, analytical tools, and information that would enable the political leadership to at least appreciate the interconnections and interdependencies among the three systems. One could further argue that professionals in such situations have an ethical obligation at least to urge political leaders to think more carefully about the long-term well-being and survival of the community or region in which they operate, working within a sustainability framework.

A sustainability focus also would affect the content and purpose of research in the field. Of course, most of what defines a public

administration research agenda would be entirely appropriate under a sustainability focus. We still would want to have sound decision making, effective leadership, high-performing organizations, diversity, quality analysis, reliable budgeting and contracts oversight, and all the other ends toward which public administration research is directed. However, a sustainability focus would place more emphasis on certain kinds of issues. Among these are research on the fit between environmental problems and the scale of governance, the relative effectiveness of alternative policy instruments, methods for engaging and working with communities on risk issues, the role of partnerships in managing for sustainability, the use of sustainability indicators for results-oriented management, and the dynamics of the relationships among environmental, economic, and social issues in decision making.

A distinctive contribution that researchers in public administration can make is to explore the relationships between the characteristics of the political system, in particular the capacity for and determinants of effective governance, and success at promoting the goals of environmental sustainability. What are the effects of different institutional structures and policy styles on environmental outcomes? Do certain kinds of political structures or cultures promote more effective integration among the three systems? Do opportunities for and patterns of active citizen engagement allow citizens to overcome specific economic interests and make choices that are more consistent with the broader, more long-term interests of the community, as some of the research suggests? Do the often adversarial patterns of interaction nationally with respect to environmental issues contribute to or detract from the ability to undertake a sustainability transition? The research discussed earlier in this article, along with a growing literature on local, regional, and corporate sustainability, provides a start in answering these questions, but there still is much to be learned. The inescapable logic of environmental sustainability underscores the need for making such issues a more prominent part of research agendas.

For the goal of refocusing the field by 2020, the initial emphasis should be on training and education. Developing model curricula on environmental sustainability, incorporating sustainability into existing courses, and designing mid-career programs for professionals in the field are a start. Emphasis from funding institutions, special issues of journals, and attention to sustainability topics at conferences would influence research agendas. As the logic of environmental sustainability places new pressures and demands on all scales of governance, there will be more demand for people having the ability to analyze, evaluate, and integrate policy and administration from a sustainability perspective. By 2020, a broad and substantive refocusing of the field could be under way.

Sustainability and Public Administration in 2020

Critics will argue that using sustainability as a conceptual focus for public administration carries with it a bias toward government involvement, restraint of economic markets, and collective action generally. Indeed, conservative commentators have made this very point, depicting environmentalism as the latest guise under which "socialist" and "collectivist" principles will be extended to a range of public policies (see, e.g., Krauthammer 2008). There are two responses to this argument. First, by its very definition, public administration already is strongly biased toward collective action of many kinds. If there were no need for collective action in society, there would be no "public" to administer. Second, the sustainability concept does not necessarily involve a major expansion of government or restraints on markets. In fact, many sustainability goals would be achieved by removing market-distorting subsidies, pricing resources fairly, and applying market methods to collective action problems through tax shifting, trading, and other incentives. Although it is fair to say that sustainability will require a higher degree of collective action than a business-as-usual scenario, it is equally the case that environmental sustainability may be achieved in ways that are generally consistent with American political values and institutions.

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Another criticism is that this changed focus will bias public administrators against economic growth and competitiveness and undermine the U.S. economy. This was the core argument of critics of environmental regulation for decades, and it is at the heart of the opposition to action on greenhouse gases today. There are three responses to this argument. First, economic growth may have to be tempered to some degree or redefined in order to incorporate more environmentally sustainable principles. Given population growth and changes in mobility, technologies, and consumption around the world, the current trajectory is unsustainable. Second, the zero-sum trade-offs between the economic and environmental systems have been greatly overblown. The evidence discussed earlier clearly suggests that the goals of economic and environmental progress are not necessarily irreconcilable. Third, institutions and policies for promoting sustainability offer opportunities for eco-efficiency and sustainable growth. Higher living standards and environmental sustainability are not only reconcilable, as the previous point argues, they are in many cases synergistic. Indeed, the ideas of sustainability politics and sustainability governance are based on the assumption that such synergies exist, not for every policy decision or all interests, but in the long run and for society as a whole.

In 1963, Lynton Caldwell argued in *Public Administration Review* for making the concept of the environment a focus for public policy. He saw it as a way of integrating a range of policy concerns, from water quality and land use to housing, transportation, planning, and education. For this to happen, public administration and policy studies would have to overcome "segmental" thinking and decision making. They had not, he observed, "largely because most of us, in government and out, taking the environmental for granted have dealt with its various elements without regard to their interrelated totality" (Caldwell 1963, 136). Nearly five decades later, the environment indisputably has become a major focus of concern and action at all scales of governance. Yet our thinking and decision making still are mostly segmental. Sustainability offers public administrators a framework and set of normative principles for considering issues in their "interrelated totality."

Is the political process at the point at which administration may usefully adopt a sustainability focus? If it is not yet the "organizing

principle for modern civilization," as Al Gore argued in *Earth in the Balance,* environmental sustainability is playing an increasingly prominent role in agenda setting and decision making at all scales of governance.[9] Moreover, for perhaps the first time since the concept was minted, political leaders are beginning to connect the dots among the economic, environmental, and political/social systems. Climate change especially is forcing an integration of these systems and a recognition of the need to sustain each while maintaining a balance among them. Environmental issues now are linked with the goals of economic efficiency, social equity, political stability, national security, public health, and quality of life. Although the political barriers are formidable, the conceptual framework for moving beyond segmented thinking and action exists if public administrators are inclined to use it. Activity at the state and local levels in the United States provides experience and perhaps an impetus for a transition to environmental sustainability at the national level.

Dwight Waldo wrote in 1972 that "public administration will be centrally involved in change and transformation" (244). Rarely in the history of the field has his statement been as relevant as it is now in meeting the challenges of environmental sustainability. This article has argued that sustainability and its definition as three interdependent and overlapping systems should define a focus for public administration by 2020. It has assessed the evidence on the empirical validity of sustainability as a concept. It has argued that by integrating the environmental into the more established concerns with the politics/governance and economic systems, public administrators may achieve a more theoretically complete and empirically valid foundation for education, practice, and research. Sustainability must move from being a concept that is debated and analyzed to one that guides decision making and action at all scales of governance and across policy sectors. What better way is there to integrate sustainability into decision making and action than by making it a conceptual focus for public administration?

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Notes

1. The term "sustainability" is preferred here over "sustainable development" because the former may be more usefully applied to countries that are already considered to be "developed," such as the United States.
2. An example is the EPA report "Everyday Choices: Opportunities for Environmental Stewardship" (2005). More recently, the EPA formed a Subcommittee on Promoting Environmental Stewardship (74 *Federal Register* 26397, June 2, 2009).
3. Also known as the Brundtland Commission after its chair, Gro Brundtland of Norway. The WCED's report was published as *Our Common Future* (1987).
4. Here, "environmental" is substituted for "ecological," in line with typical American usage, where "ecological" typically is used to refer to nonhealth issues and "environmental" to the broader set of health, ecosystem, and resource issues considered in this discussion.
5. Although the argument is more complex than is suggested here, an illustration of work used to support this view is Meadows, Randers, and Behrens (1972).
6. One issue raised with respect to this economy–environment relationship is whether changes in the composition of the more developed economies allow them to "export" pollution to less developed ones. Two points should be kept in mind in thinking about this issue. First, although the manufacturing sector as a share of U.S. gross domestic product has declined relative to services over the last several decades, the absolute value of manufacturing increased substantially between 1975 and 2005. Second, there is evidence suggesting that trade openness does not harm and may even increase environmental protections, for a variety of reasons (see Frankel and Rose 2005).
7. On comparisons with respect to environmental sustainability of the United States and other countries, see Esty et al. (2008). The United States ranks relatively low among affluent countries, largely because of its consumption practices generally and its energy and climate policies specifically.
8. Another scale of governance that is important for environmental sustainability is the corporate one. This has been the subject of a rapidly growing literature. For examples, see Gunningham, Kagan, and Thornton (2003), Press and Mazmanian (2009), and Prakash and Potoski (2006).
9. James Meadowcroft (2005) argues that nations may be in a process of transition from the welfare to the ecological state as a governing paradigm (see also Christoff 2005).

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