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U.S. Adherence to Its Agenda 21 Commitments: A Five-Year Review

John C. Dernbach



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U.S. Adherence to Its Agenda 21 Commitments: A Five-Year Review

John Dernbach and the Widener University Law School Seminar on Law and Sustainability

John Dernbach is an Associate Professor at Widener University Law School. The students participating in the Seminar on Law and Sustainability were Nicholas Ackerman, Laura Ax, Laurie Bice, Susan Bucknum, Michael Burger, Bill Davis, Eric Failing, Bart Holmes, Randall Hurst, Nancy Kippenhan, Denise Miller-Tshudy, Shilpa Patel, Dianna Reed, Adam Schellhase, Paul Stahlnecker, Diane Tomer, and Ari Weitzman. The seminar, which was led by Professor Dernbach, was held in the spring semester of 1997. Andrew Young, Class of 1998, helped prepare the footnotes for this Dialogue.

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In June 1992, delegates from nearly every nation in the world, including 107 heads of state or government, participated in the United Nations Conference on Environment and Development (UNCED), or Earth Summit, in Rio de Janeiro. Their most important work was Agenda 21, a comprehensive plan of action for sustainable development.¹ The United States, led by President George Bush, endorsed Agenda 21. Agenda 21 was premised on the simple and appealing idea that the real work of the conference would occur afterwards, in a variety of contexts, all over the world. The ultimate success or failure of UNCED, in other words, depends on whether the problems that led to the conference are actually addressed.

Five years later, in June 1997, the United Nations General Assembly met in New York to assess the progress that nations have made in carrying out their Agenda 21 commitments.² The Rio-plus-five review produced critical reflection and evaluation of how well individual countries have done, and what they should be doing next. Despite some positive actions since UNCED, the General Assembly concluded that "overall trends for sustainable development are worse today than they were in 1992."³ The General Assembly also reaffirmed Agenda 21 as the global blueprint for sustainable development. In fact, the only document that emerged from the meeting was a Programme for the Further Implementation of Agenda 21.⁴ The General Assembly scheduled the next comprehensive review of progress implementing Agenda 21 for five years hence, in 2002.⁵

The United States could play a large, even decisive, role in moving the world toward sustainable development. The country unquestionably has the ability to play such a role: it has a rich and impressive capability for technological innovation, significant natural resources, and one of the strongest educational systems in the world.⁶ The United States played a key role in creating the United Nations, and has had a historic leadership role in that institution and elsewhere on world issues. And the country is unquestionably the most powerful nation in the world since the collapse of the Soviet Union in 1989.

But the United States can lead only if it translates its international commitments into domestic policy. Unfortunately, it has not.

This Dialogue began with a simple question in my seminar on law and sustainability in the spring of 1997: What effect did UNCED have on U.S. laws and policies during this first five-year period? Both the executive branch and Congress were included. Each student wrote a paper on a particular aspect of Agenda 21 that is important to the United States. This Dialogue synthesizes and summarizes the papers, drawing overall themes or conclusions from them and using them as a major source of information.⁷

The question led to disappointing if unsurprising findings. Despite all the promises and lofty rhetoric, the Earth Summit has had little discernible effect on U.S. law and policy. Because of the breadth and detail of Agenda 21, it was

not possible to evaluate U.S. adherence to each commitment in the context of a law school seminar. Many specific issues are therefore not discussed. The level of American effort [27 ELR 10505] on the issues discussed here, however, appears to be representative of the effort directed at other issues. From paper to paper, the type and level of U.S. effort on particular issues reflected a common pattern. It is unlikely that a study of different issues would show another pattern.

Recommendations for further U.S. action follow logically from the findings. In brief, the country should adopt an overall sustainable development strategy, should educate the public about the importance of sustainable development and the choices the nation faces, and should intensify its efforts to move toward sustainable development. President Clinton focused on climate change in his speech to the General Assembly, but that is only a start. By 2002, when the Rio-plus-ten review occurs, the United States should have a record of real achievement.

Agenda 21 and Its Importance to United States

Five documents are said to have come out of UNCED, but the importance and ultimate success or failure of the conference rests on just one—Agenda 21. Two treaties were negotiated beforehand, the Biodiversity Convention⁸ and the Framework Convention on Climate Change,⁹ and were simply opened for signature in Rio. But even important treaties such as these can be opened for signature without a conference. Two other documents negotiated at the Earth Summit, the Rio Declaration on Environment and Development¹⁰ and a statement of principles for the sustainable management of forests,¹¹ describe basic precepts of sustainable development. But such statements of principle can be, and often are, approved as part of the routine business of the General Assembly.

Agenda 21 is the most important—and in the United States the least understood—document to come out of Rio. Agenda 21 is a comprehensive road map of actions necessary for countries to achieve sustainable development. Because Agenda 21 is a program of action, every chapter or subchapter begins with factual information and policies that explain the basis for action. Objectives or goals are stated next. The heart of each chapter or subchapter is a description of the various actions that countries agreed to take. The plan then describes the means required for their implementation.

Most of the day-to-day work of the delegates during the two-week Earth Summit was spent negotiating Agenda 21. The scope and detail of this agreement also distinguish UNCED from the 1972 United Nations Conference on the Human Environment in Stockholm, which produced only a relatively brief and general program.¹² Because Agenda 21 was conceived and drafted as a plan, it was obvious that the success or failure of the Earth Summit would be judged by how the nations of the world adhered to the commitments they made in that plan.

"Humanity stands at a defining moment in history," Agenda 21 begins.¹³ It then summarizes much-discussed global problems: "We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well-being."¹⁴ Although much can and has been said about these problems, two facts bring the challenges of the next century into focus. By 2050, the current global population of about 5.7 billion people will grow to between 7.9 and 11.9 billion.¹⁵ In the same period, the world's economy will grow by four or five times.¹⁶ These two facts have the potential to greatly multiply already significant and complex environmental, social, and economic problems.

Actions to achieve sustainable development are thus based on enlightened self interest, not altruism. A degraded natural environment makes it harder for people to make a living. Rising sea levels from global warming would flood coastal cities around the world. Poverty, overcrowding, and competition for scarce resources can easily ignite military conflicts, and often have. To the extent that human activity destroys creatures, habitats, or natural systems that have long been in existence, it impoverishes us all.

Sustainable development, Agenda 21 says, is a way of turning these problems into opportunities. "Integration of environment and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future."¹⁷ Because it is an agreement among the world's nations, Agenda 21 represents "the beginning of a new global partnership for sustainable development."¹⁸

Agenda 21's comprehensiveness is suggested by its length; regardless of how it is printed, the complete text is always several hundred pages long. Its four basic sections, concerning social and economic aspects, conservation and management of resources, strengthening the role of major groups, and means of implementation, suggest its broad

scope. These sections are divided into a total of 40 chapters, many of which contain several subchapters.

The subjects for these chapters indicate the ambitiousness of Agenda 21. The social and economic section includes chapters on international trade and investment, [27 ELR 10506] poverty, consumption, population, human health, human settlements, and the integration of environment and development in decisionmaking. The resources section contains chapters on the atmosphere, land use, deforestation, desertification, mountain ecosystems, agriculture, biological diversity, biotechnology, oceans, freshwater, toxic chemicals, hazardous wastes, solid wastes and sewage, and radioactive wastes.¹⁹

In its third section, Agenda 21 identifies ways to enhance the role of many groups in decisionmaking for sustainable development: women, children and youth, indigenous people and their communities, nongovernmental organizations, local authorities, workers and their trade unions, business and industry, the scientific and technological community, and farmers. Finally, means of implementation include money, technology transfer, science, education and public awareness, capacity building in developing countries, international institutions, international legal instruments, and information.²⁰

As a plan for sustainable development, Agenda 21 necessarily contains an operational definition of that term. The Brundtland Commission defined sustainable development in 1987 as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."²¹ That definition captures the basic idea, but it is unsatisfying to those who want to know what it means in a specific context. The actions contained in Agenda 21 provide a way to understand more precisely what sustainable development means. Because the people who worked on specific chapters were knowledgeable about those particular areas, Agenda 21 also represents some of the best current thinking about sustainable development. Agenda 21 thus provides a more focused and useful point of departure for a discussion of sustainable development than the one-sentence definition.

Countries that adhere to their Agenda 21 commitments must figure out what those commitments mean in their particular situations and how they should be implemented. Agenda 21 is simply too general to pull off the shelf and implement. For example: "Governments at the appropriate level, with the support of regional and international organizations, should strengthen regional cooperation and exchange of information on land resources."²² If governments are not already doing this, they must decide how to strengthen regional cooperation as well as what information to share with whom. Here and throughout Agenda 21, they must also determine what level of government is most appropriate. In general, Agenda 21 suggests that planning and management be conducted by the lowest governmental level that can take effective action.²³ Because many problems are most obvious at the local level, and because local government is closer to the people than higher levels of government, Agenda 21 proposes that municipalities adopt a local Agenda 21 process.²⁴ Agenda 21 also indicates that every part of society has a role to play in sustainable development.

Agenda 21 is relevant to all countries. For the United States and other developed countries, it contains provisions concerning reduction in the consumption of energy and materials, protection of the atmosphere from the effects of global warming, and financial assistance to developing countries to help them achieve sustainable development. Even in areas where the United States has shown enormous progress, like environmental protection, Agenda 21 recommends ways to make those laws even more effective, including the increased use of fees and other market-based tools. For developing countries, it encourages the provision of adequate sanitation systems and water supplies, access to basic health care, and the reduction of air and water pollution.

Agenda 21 recognizes or incorporates existing treaty commitments, such as those concerning climate or stratospheric ozone. Treaties are legally binding under international law on countries that have ratified them. The great majority of the Agenda 21 commitments, however, are not based on treaties. Such commitments are known in international law as "soft law," which is a way of saying that they should be taken seriously even if they do not have formal legal status.²⁵

The most basic reason for adhering to "soft law" commitments is that a country's public agreement to do something is still a commitment, whether it is legally binding or not. The intense and vigorous negotiations among countries about every word and comma of Agenda 21 attest to the significance of the commitments that countries ultimately made. "We are not going to sign up to do things we can't do," President Bush told a press conference shortly after the Earth Summit. "We're not going to sign up to do things we don't believe in."²⁶ When the United States agreed to Agenda 21, in fact, it specifically identified one issue—governmental assistance to other countries for sustainable development—where it was not making a commitment. The United States committed to Agenda 21 on all matters studied in the seminar except financial assistance.²⁷

U.S. leadership depends to a great extent on whether the country keeps its word. Trust matters in relationships, whether they involve persons or countries. A government's unwillingness to keep commitments in international relations teaches cynicism to the citizens of that country, and teaches skepticism about that country to other nations. If the United States aspires to leadership at this "defining moment in history," the legal status of Agenda 21 is simply irrelevant.

Finally, a fundamental premise of Agenda 21 is that all nations have common obligations to their citizens as well as to future generations. Fulfillment of those obligations is part of what it means to be among the community of nations. The United States cannot lead unless it sees itself as part of that community.

[27 ELR 10507]

Findings

The United States Has No Coherent Overall Commitment to Sustainable Development

When countries approved Agenda 21, they agreed to adopt national strategies for achieving sustainable development based on, among other things, the commitments in Agenda 21. The need for a national strategy is underscored by the meaning of sustainable development.²⁸ Agenda 21 describes sustainable development as "socially responsible economic development" that protects "the resource base and the environment for the benefit of future generations."²⁹ As the Programme for the Further Implementation of Agenda 21 states, "Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development."³⁰ These statements capture a simple formula that is often used for sustainable development, the three "Es"—environment, economy, and equity.

A major part of that strategy thus involves the progressive integration of our governmental decisionmaking processes on social, economic, and environmental issues.³¹ It also includes improving our legal and regulatory framework to better foster sustainable development. Agenda 21 states that the use of economic and market instruments is particularly important.³² To improve decisionmaking, Agenda 21 also calls for the use of satellite systems of social and environmental accounting to supplement the economic accounting in gross domestic product (GDP), and for governments to adopt and use indicators of sustainable development.³³

Fundamentally, sustainable development requires us to conceptualize problems and solutions differently. It requires us to see that there is virtually no such thing as a purely economic, environmental, or social problem. The fate of commercial fisheries, for example, affects not only the environment but the jobs and communities that depend on them.

By integrating these three sets of questions, sustainable development changes the traditional pattern of thinking about each separately. Sustainable development is not just another "program"; it is a broader, more complete way of thinking about all problems. In addition, it requires us to think more creatively and collaboratively about solutions. Instead of thinking about an environmental problem strictly in terms of environmental solutions, sustainable development forces us to design and implement a solution that also furthers economic and social goals. For example, besides its environmental benefits, recycling can be used to create employment and help rebuild cities. This is plainly different from ignoring other goals or minimizing harm to them.

The importance of a national strategy cannot be underestimated. Indeed, the Programme for the Further Implementation of Agenda 21 calls on all countries to have complete national strategies for sustainable development by 2002.³⁴ Because sustainable development requires the integration of economic, social, and environmental thinking about problems, it is necessarily broader than any particular problem or activity. It is illogical and confusing to think sustainably about fisheries but then to see job creation for former welfare recipients simply as a social or economic issue.

Unfortunately, there was no overall sustainable development strategy or effort to review. Five years after Rio, the United States still has no coherent or comprehensive commitment to sustainable development. There has been no concerted effort to progressively integrate governmental decisionmaking on environmental, social, and economic issues; no substantial improvement in our existing legal framework to better foster sustainable development; no implementation of satellite systems of social and environmental accounting; and no governmental use of sustainable development indicators. No agency or individual in the U.S. government even has governmentwide responsibility for coordinating or implementing sustainable development policy.³⁵ Although President Clinton appointed a blue ribbon

panel that produced a sustainable development report with recommendations, there was little effort or interest in implementing those recommendations.

This lack of commitment created many problems for the seminar. In many cases, there were no authoritative governmental sources of information. It was not difficult to find individual success stories, but much harder to find information about general trends. Sustainable development efforts are being made on some issues, but no overall strategy or plan connects them. Sustainable development involves such a wide range of human endeavor that sector-specific efforts will necessarily leave important gaps. An overall national commitment is thus essential.

While the recommendations of the President's Council on Sustainable Development (PCSD) could provide part of the basis for a national strategy, the lack of governmental action to implement its recommendations reduces it to a discussion of some critical issues that the country must face if it is to move toward sustainability. When President Clinton created the PCSD in 1993,³⁶ he appointed highly talented people representing a range of corporate, environmental, governmental, civil rights, labor, and Native American interests. In early 1996, the PCSD issued its final report, *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future*. The report, which was required reading in the seminar, recommended 154 specific actions in 38 policy areas, including reform of pollution control laws, natural resources stewardship, [27 ELR 10508] education, international policy, and communities. More than 450 experts participated in the eight task forces that helped develop these recommendations.

The PCSD operates outside of normal governmental decisionmaking processes, however, and it has no legal authority to make or implement decisions within the federal government. Regardless of the thoughtfulness of its proposals, they are only recommendations that must be implemented by others. Its report is not a plan of action, and few of its recommendations have even been implemented. Moreover, the report contains no recommendations concerning the major new issues raised in Rio.

The PCSD recommended a more cost-effective, more performance-based, and more flexible regulatory system for pollution control. It also recommended that national taxes and subsidies, which have a powerful effect on individual and corporate behavior, be reviewed in light of sustainable development goals.³⁷

The Council recognized that sustainability is most understandable in the specific places where people live, work, and play. Its report therefore contains recommendations for strengthening communities in a variety of ways. The sustainable redevelopment of Chattanooga, Tennessee, which was discussed in the seminar, was used as an example. The city has achieved economic prosperity, greater social equity, and a higher quality environment by using a broad-based citizen involvement process to set and achieve goals.³⁸

The Council recommended collaborative problem solving among people living or working in particular areas to address various issues involving natural resources, including biodiversity, forestry, and agriculture. To move toward a stable population, the Council recommended extension of reproductive health services and opportunities for women.³⁹

The PCSD's final recommendations concerned international efforts. Among other things, it recommended greater financial support to the United Nations and other international organizations, as well as encouragement of global trading systems that support sustainable development.⁴⁰

Apart from the recommendations, the Council's work shows that sustainable development transcends Republican/Democratic as well as liberal/conservative dividing lines. It combines personal responsibility with social concerns, a healthy respect for the power of the market and private decisionmaking with a desire to steer that market in a sustainable direction. As its subtitle suggests, sustainable development provides the basis for a new political consensus.

Unfortunately, few of these recommendations are being implemented. There is no office within the federal government that is systematically tracking implementation of these recommendations, much less ensuring that they are implemented. Some efforts are being made, but most appear to be coming from sources other than the federal government.⁴¹

The principal exception concerns recommendations that the government foster sustainable communities, although the government's efforts here have been modest. With the PCSD's support and federal financial assistance, the National Association of Counties and the U.S. Conference of Mayors have established a Joint Center for Sustainable

Communities.⁴² The Center's mission is to provide various forms of technical and other assistance to help communities plan collaboratively to achieve a shared vision.⁴³ The Commerce Department has offered grants for sustainable communities. An Energy Department Web site contains an impressive description of sustainable communities efforts.⁴⁴ Unfortunately, however, that effort is nominal, and opportunities to encourage collaboration to achieve sustainable communities have not been exploited. As of late 1996, only 19 of the 1,812 local Agenda 21 initiatives around the world were taking place in the United States.⁴⁵ The April 1997 Summit for America's Future—the so-called summit on volunteerism—did not focus on sustainable communities, even though such efforts may be part of follow-up work that occurs in particular municipalities.

Sustainable America is also limited in scope. Agenda 21 provides a checklist of issues that need to be addressed in any nation's strategy for sustainable development. The checklist, in turn, can be used to spot gaps. The PCSD's main report contains many gaps, and it contains no reference whatsoever to Agenda 21. *Sustainable America* does not include recommendations concerning consumption of energy and materials, for example, or climate change, biodiversity, or financial assistance to other countries for sustainable development. These are among the major new issues raised in Rio. The report, in other words, addresses only selected issues, and on those issues it contains only recommendations. Several months ago, however, the President asked the PCSD to examine some of these major issues, including finance and climate.⁴⁶ It thus appears that the PCSD will in the future issue another report that broadens the scope of its prior recommendations.

A national commitment to sustainable development would necessarily mean establishing goals as well as indicators for measuring progress in meeting these goals. Indicators are numerical markers of trends or developments in a particular field; examples include the unemployment rate and crime statistics. *Sustainable America* contains 10 proposed sustainable development goals as well as suggested indicators of whether they are being achieved. One of the proposed goals, concerning stewardship, is to "create a widely held ethic of stewardship that strongly encourages individuals, institutions, and corporations to take full responsibility for the economic, environmental, and social [27 ELR 10509] consequences of their actions."⁴⁷ Proposed indicators of success include forestry harvests that are lower than the regeneration rate and increased efficiency of materials use.⁴⁸ These indicators and goals, however, are only proposals.

A federal interagency task force is developing a set of sustainable development indicators.⁴⁹ Although the task force has received comments submitted through electronic mail from a Web site, there has been no *Federal Register* notice of its activities or any effort to give its activities the force of law through rulemaking. Without a more conventional public process, and without proposed goals, it is difficult to believe that the indicators ultimately developed will be publicly credible or be put to use by this or future Administrations.

The United States Has Not Educated the General Public About the Need for Sustainable Development or Its Implications

Agenda 21 recognizes the importance of two kinds of education—education of the public and education as part of formal schooling. The federal government has not sought to inform the public about the need for sustainable development, although it has made some effort to foster dialogue among interested professionals. At the seminar's outset, for example, most students did not know anything about sustainable development. In the schools, environmental education is becoming increasingly prominent, but it is not clear how much schools teach integrated thinking for sustainable development.

Overall public awareness of sustainable development in the United States has increased only slightly since the Earth Summit. Agenda 21 recognizes a "lack of awareness of the interrelated nature of all human activities and the environment."⁵⁰ It thus seeks to foster a "global education effort to strengthen attitudes, values and actions which are compatible with sustainable development."⁵¹ This public awareness effort is important not only to build a greater sense of personal responsibility, but also to conduct and enhance the kind of public debate about sustainable development that is necessary in a democratic society.⁵² Agenda 21 thus includes a commitment by national governments to promote public awareness of the importance of integrating environment and development issues.⁵³

Part of governmental leadership, in other words, is educating citizens about the importance of problems and leading a public debate on what to do about them.⁵⁴ Such an approach plainly runs counter to the predominant view that governance follows public opinion. But the nation's great leaders, including Washington, Lincoln, and Franklin Roosevelt, are remembered precisely because they made decisions that reached past the horizon of current public opinion.

This public debate is especially important because sustainable development will require changes in the nation's laws. Although Agenda 21 properly recognizes that every part of society has a role to play, new or modified laws are an essential ingredient in addressing the overwhelming majority of specific problems studied in the seminar. Laws exert a powerful influence on individual and corporate behavior; much of the behavior they now encourage is not sustainable. To the extent that is the case, the laws need to be amended. When Congress amended the Magnuson Fishery Conservation and Management Act in 1996, for example, it named the amending legislation the Sustainable Fisheries Act.⁵⁵ But such changes are highly unlikely to occur unless the public understands what sustainable development could mean in a specific context. The government and the public, in other words, should have a dynamic relationship; the government should foster public understanding of sustainable development that leads, in turn, to legal changes.

In the United States, the public debate has been hindered by confusion and misunderstanding about what sustainable development means. An important source of confusion, ironically, is the relative success of American environmental laws and the context in which they have been implemented. Industry's initial resistance to pollution controls led to so-called command-and-control regulations that are backed by an imposing array of governmental enforcement options. Because of these laws, our air and water are cleaner, our waste is better managed, and our communities are healthier than they were 30 years ago.

While these laws have moved the country toward sustainability, they have shaped public understanding in four ways that hinder the attainment of sustainable development. First, private companies have been publicly depicted (often but not always accurately) as "black hats" through much of this period, as being unable or unwilling to do the right thing without being forced or threatened. The active and energetic involvement of corporations in constructive approaches is essential to sustainable development, however.⁵⁶ They actually make the goods or perform the services; they do more things than government can regulate; and they know their processes, products, and services better than anyone else. Second, the success of these laws has created some complacency about environmental protection. Most problems are less immediate and visible. Reflecting their counterparts in the general public, seminar students in their twenties have little or no memory of conditions before these laws were adopted.

Third, the confrontational "I win, you lose" nature of the traditional disputes has left the players wary and reluctant to engage in cooperative problem solving. Because sustainable development requires both collaborative and creative efforts by people who previously have seen each [27 ELR 10510] other as adversaries, it requires them to shake habits of mind and heart that have been shaped by years of experience. President Clinton recognized this when he appointed, as co-chairs of the PCSD, Jonathan Lash, President of the World Resources Institute, and David Buzzelli, Vice President of Dow Chemical Company. "The politics of mistrust," they wrote in the report's preface, "are the greatest obstacle to the process of innovation and change that we all believe is necessary to achieve the goals we share."⁵⁷

Finally, the nation's history of clashing environmental and economic interests has all but obscured the third key part of sustainable development—social equity or social development. The relatively recent attention given to environmental justice, or the unequal distribution of adverse environmental effects, is important but only touches the surface. Social development is ultimately about access to housing, health care, basic education, and other human needs. Sustainable development is not just another way of talking about environmental protection, in other words; it is a broader term embracing many factors that contribute to the quality of human life.

The PCSD has played a role in promoting the public debate, but only a modest one. The Council held 10 public meetings, each of which was attended by 200 to 500 persons. It set up eight task forces to focus on specific issues, and these task forces held more than 50 additional public meetings. The report has given interested environmental professionals an understanding of what sustainable development could mean for the United States.⁵⁸

The problem is that very few people are even aware of the report. The text of *Sustainable America* is available on the Web, but only 20,000 copies of the text have been distributed.⁵⁹ The President canceled a press conference on *Sustainable America* after news of its impending release was published by *The New York Times*.⁶⁰ As a result, there was little electronic or print news coverage concerning the report. Nor has sustainable development been publicly discussed in other contexts. The President barely mentioned environmental issues or those relating to sustainable development in his 1997 State of the Union Address, which ran more than an hour.⁶¹ A search of White House press releases, radio addresses, photos, and Web pages for selected periods during the past four years provided similar results.⁶² The general public, in short, has not been made aware of the need for sustainable development.

The other key part of public education needs to occur in the schools, which are primarily the responsibility of state and local governments. Although the content and orientation of environmental education programs vary considerably,

sustainable development does not appear to play a major role in most programs.

Agenda 21 recommends that formal education for children include a sustainable development curriculum. It proposes that countries "update or prepare strategies aimed at integrating environment and development as a cross-cutting issue into education at all levels."⁶³ Such education would focus on "environmental and ethical awareness, values and attitudes, skills and behavior."⁶⁴ It would prepare students to make decisions in their own lives and to participate effectively in public or governmental decisions. Because seeking and maintaining sustainability will be a permanent feature of the political landscape, it is appropriate to ensure that tomorrow's voters and decisionmakers are familiar with its basic concepts. If the United States truly aspires to global leadership in sustainable development, such education is especially important.

The National Education Reform Act of 1994 includes six national goals for the year 2000.⁶⁵ By that year, for example, every child should start school ready to learn, and the high school graduation rate should be 90 percent or higher.⁶⁶ Neither environmental nor sustainable development education is mentioned. Under the Act, schools are also to prepare students for "responsible citizenship, further learning, and productive employment in our modern economy," and to prepare U.S. students to be "first in the world in science."⁶⁷ These latter two goals can easily be read to include environmental education.

Most schools in the country are teaching environmental and ecology concepts, but the subject matter and orientation of these programs vary greatly. Many, but not all, encourage action based on those concepts by, for example, recycling their trash or monitoring water quality in a nearby stream.⁶⁸

Under the auspices of the PCSD, the National Forum for Partnerships Supporting Education about the Environment produced a plan on sustainable development education. Its first recommendation was to "ensure that the interconnections between the environment, economy, and social structures become an integral part of formal education."⁶⁹ This recommendation follows directly from the broader perspective required for sustainable development. In addition to teaching environment and ecology concepts, sustainable development education would help students understand [27 ELR 10511] the relationships that exist among economic, social, and environmental issues. Sustainable development, the plan says, should be taught as "an ongoing process: not as a set of irrevocable answers, but as a way of continually asking better questions."⁷⁰ Because it is necessarily interdisciplinary, education for sustainability can be taught across the curriculum.

Some schools, albeit a minority, teach sustainable development. Pennsylvania's statewide education requirements are consistent with sustainable development.⁷¹ Sustainable development education, however, does not appear to be occurring on a widespread basis. Many environmental education programs appear to include aspects of integrated thinking and problem solving, but many—probably most—do not. Without stronger encouragement, sustainable development is unlikely to become part of most school curricula.

The United States Has Achieved Relatively Little on the Major New Issues Raised at the Earth Summit

The new issues raised at UNCED cut across many economic sectors, involve many parts of our society, and affect the environment in many ways. The seminar examined three such issues—energy consumption, global warming, and commitment of financial resources to foster sustainable development in other countries. How the United States addresses each of these will profoundly affect the extent to which sustainable development is actually achieved. The Programme for the Further Implementation of Agenda 21 describes climate change "as one of the biggest challenges facing the world in the next century."⁷² Relatively little has been done on the first two issues since 1992. In the case of financial resources for developing countries, the overall American commitment to foreign assistance has been reduced, although funding for sustainable development projects appears to have increased.

The high consumption of energy and other natural resources by Americans does not provide mere background for addressing sustainable development. These consumption levels themselves are the problem. In 1993, Americans, who represent 5 percent of the world's population, consumed about 24 percent of the world's energy and 30 percent of the world's raw materials.⁷³ The major cause of the continued deterioration of the global environment, Agenda 21 says, "is the unsustainable pattern of consumption and production, particularly in industrialized countries."⁷⁴

Consumption of fossil fuels is a problem for U.S. national security because the country now imports about half of its oil.⁷⁵ The money paid for that oil also increases the American trade deficit. A growing world population and economy are likely to mean rapid price increases for oil or other raw materials as well as political instability that could

jeopardize their availability altogether, at least for significant periods.

Consumption of fossil fuels is also a problem because of global warming caused primarily by the emission of carbon dioxide into the atmosphere from the combustion of such fuels. In the past century, global mean surface temperatures have increased between 0.3 and 0.6 degrees centigrade, according to the Intergovernmental Panel on Climate Change (IPCC), a world body of experts organized under the auspices of the United Nations.⁷⁶ In late 1995, the IPCC concluded that this temperature increase was likely due partly to the human release of carbon dioxide and other greenhouse gases.⁷⁷ With moderate population growth and no focused international effort to reduce emissions of these gases, the IPCC said, mean surface temperatures will rise 2 degrees centigrade and sea levels will rise by 0.5 meters in the next century.⁷⁸ The United States contributes more greenhouse gases than any other country, 19.14 percent of the world's total.⁷⁹

The effects of global warming in the United States are likely to be significant. They include the consequences of rising sea levels for coastal cities and beaches, the shift of much agricultural activity further north and into Canada, an increase in the number and severity of storms and floods, and harmful effects on wildlife and recreation. It is hard to think of economic sectors, social forces, or natural resources that would be unaffected by global warming.

Finally, fossil fuels consumption is important because of the way the world is developing. Current levels of energy use and energy sources are not sustainable, and they are becoming less sustainable. Given the projected growth in the world's population and economy, nations will need to increase the efficiency with which they use energy, and particularly fossil fuels, by a factor of 10 merely to keep the economic and environmental risks from energy use at current levels.⁸⁰

Agenda 21 addresses these issues in several ways, two of which were discussed in the seminar. First, it encourages the United States and other developed countries to "take the lead in achieving sustainable consumption patterns"⁸¹ by, among other things, implementing domestic policies to "encourage a shift to more sustainable patterns of production and consumption."⁸² As part of this approach, governments [27 ELR 10512] should assist in the development and use of renewable energy sources, including solar energy. The increased use of solar energy and other renewable sources in the United States would not necessarily decrease energy consumption, but it would reduce reliance on foreign energy supplies as well as greenhouse gas emissions.⁸³

No shift to renewable energy sources is evident, however. The United States has laws that provide limited financial incentives to invest in solar energy, allocate limited funds for research and development, and encourage the public dissemination of information about solar energy. But federal funding for such efforts has fallen since the late 1970s.⁸⁴ Partly as a result, only 7.1 percent of all energy consumed in the United States is from renewable sources, although that does represent an increase from 4.2 percent in 1980.⁸⁵ Shipments of solar collectors in 1994 were less than half of what they were in 1984. U.S. energy consumption, and particularly consumption of fossil fuels, continues to be high.⁸⁶

The Framework Convention on Climate Change seeks to stabilize atmospheric greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic [human caused] interference with the climate system."⁸⁷ This treaty, which was opened for signature in Rio, establishes an international legal structure for addressing climate change. The United States is a party to this treaty. As a first step toward that goal, the developed countries agreed to "the aim of returning individually or jointly to their 1990 levels [of] these anthropogenic emissions of carbon dioxide and other greenhouse gases."⁸⁸

Agenda 21 recognizes but does not restate the Convention's goals. Instead, it identifies four principle areas of focus for implementing the Convention and reducing such gases. These are increased energy efficiency, more efficient transportation systems, more efficient production and consumption of energy and raw materials by industry, and more protective land use and resource policies.⁸⁹

The Clinton Administration's economic plan, presented to Congress in the early months of 1993, attempted to reduce the budget deficit with, among other things, a broad-based energy or British thermal unit (Btu) tax. The tax was also intended to foster the more efficient use of energy. Responding to strong opposition from affected economic interests, Congress rejected that part of the economic plan.⁹⁰

Evidently chastened by that experience, but determined to make progress in addressing climate change, President Clinton and Vice President Gore announced a plan in the fall of 1993 to carry out the country's commitments under the climate treaty.⁹¹ The plan included 50 new or expanded "cost-effective domestic actions" to return U.S. greenhouse gas

emissions to 1990 levels by the year 2000. Most of these actions were to be based on voluntary partnerships between government and industry to increase energy efficiency and for other purposes; a few were regulatory (e.g., greater energy efficiency standards for appliances). The Administration was to review progress under the plan every two years and propose any necessary changes.⁹²

The plan will not meet the Convention's goals.⁹³ A draft State Department report made available in May estimated that U.S. greenhouse gas emissions in 2000 will be approximately 13 percent higher than they were in 1990.⁹⁴ More than 5,000 organizations around the country have participated in various partnerships, which should result in an estimated annual energy savings of \$ 10 billion per year by 2000, according to the report. But the plan, even as amended in 1995, will fail to meet the goal because it significantly underestimated the reductions required to reduce greenhouse gas emissions to 1990 levels by 2000. Congress has also provided insufficient funding for programs that were needed to implement the plan, the draft report stated.⁹⁵ Perhaps more important, but not stated in the draft report, is the inability of voluntary partnerships to make significant headway against the formidable incentives provided by current laws and practices. These include, but are certainly not limited to, subsidies and tax treatment.⁹⁶

The third of the new issues examined in the seminar was funding for sustainable development in other countries. Agenda 21 includes a commitment by developed countries to provide 0.7 percent of their GDP as official development assistance to developing countries for "sustainable development and implementation of Agenda 21."⁹⁷ Countries that had not yet achieved that figure agreed to augment their existing programs "to reach that target as soon as possible."⁹⁸ For developing countries, this commitment has enormous importance. Each of the various Agenda 21 programs contains an estimate of its cost. Sustainable development requires funding for technical assistance, for building the capacity of local and national governments, for the up-front costs of facilities, and for other investments. It is highly likely that this money, if properly spent, will prevent [27 ELR 10513] problems that would cost more to fix in the long run. More positively, this funding could be seen as part of a "Marshall Plan" for sustainable development that will ultimately provide large financial and other rewards. The U.S.-sponsored Marshall Plan provided much of the financial basis for the reconstruction of western Europe after World War II.

U.S. official development assistance to other countries, which was approximately 0.15 percent of the GDP in 1993, declined to 0.10 percent in 1995.⁹⁹ It is now the lowest of all the developed countries. But the United States is not the only country that has reduced its share since Rio; developed countries have reduced their aggregate contribution from 0.34 percent to 0.27 percent since the Earth Summit.¹⁰⁰ Denmark, Norway, Sweden, and the Netherlands contribute more than 0.7 percent of their GDP.¹⁰¹

A slightly increased share of U.S. foreign assistance, however, is being provided for sustainable development. The United States provides some funding to help developing countries pay for the added incremental costs of compliance with the stratospheric ozone treaty. The United States also provides money to the Global Environment Facility, which funds sustainable development projects under several treaties. The U.S. Agency for International Development has redirected most of its work toward sustainable development.¹⁰²

The need for increased governmental assistance remains despite the huge infusion of private capital into developing countries that has occurred since 1992. Private transfers of funds from developed countries grew from \$ 44 billion to more than \$ 240 billion between 1990 and 1996. Official development assistance represented more than one-half of the capital going to developing countries at the beginning of this period, but less than one-fifth at the end.¹⁰³ Some of this private money was spent to provide renewable energy supplies or less polluting manufacturing technology. But some of this money was invested in environmentally destructive logging or mining practices that are prohibited in the United States. In addition, about three-fourths of this private money goes to just 12 countries, which means that governmental development assistance is still important for the rest.¹⁰⁴

Although the United States never agreed to a 0.7 percent commitment,¹⁰⁵ the country's own interests would be well served by meeting it. Developed countries specifically agreed to "reach the accepted United Nations target of 0.7 percent." If they had not done so already, they agreed to "reach that target as soon as possible."¹⁰⁶ But several sentences later, the text of Agenda 21 contains language that can be read to dilute that commitment. Developed countries that had not yet met the target, such as the United States, agreed only "to make their best efforts to increase their level" of official development assistance.¹⁰⁷ This was evidently the language to which U.S. negotiators in Rio referred when they told the press that the United States had not agreed to a 0.7 percent commitment.

Even if that commitment was watered down by the "best efforts" language, it seems clear that the United States has not used its best efforts to reach the target. The end of the Cold War, skepticism about whether foreign aid money is well

spent, and a tightening federal budget are among the major reasons. This country's ambivalent relationship to the United Nations, exemplified by unpaid dues to that organization, provides another reason. Unsustainable economic development in other countries will adversely affect the United States, however, by increasing the likelihood of regional conflicts and by causing or contributing to global environmental problems whose harmful effects will be felt within the United States. The whole point of the 0.7 percent commitment was to provide the financial resources needed to put other economies on a more sustainable course. Despite the lower economic and environmental costs this additional funding would mean in the long run, poorer countries generally cannot afford the initial investment. Without the extra up-front money that sustainable development often requires, many developing countries will simply proceed with conventional—and unsustainable—development. The United States jeopardizes its own interests, and any international leadership position on sustainable development to which it might aspire, by not providing more assistance.

With Few Exceptions, U.S. Stories of Successful Steps Toward Sustainable Development Are Based on Environmental Laws Adopted Before 1992

At the Rio conference in 1992, the Bush Administration distributed a 44-page color report reflecting an American view that two decades of progress in environmental protection automatically puts the United States in a leadership role on sustainable development.¹⁰⁸ Indeed, Agenda 21 emphasizes that environmental law is a prerequisite to sustainable development. By forcing corporate, citizen, and government decisionmakers to consider environmental factors as part of their economic and social decisions, environmental law has moved the country toward sustainable development.

Evidence of American success is abundant in environmental and conservation issues. For the most part, however, this evidence is based on initiatives that were begun long before Rio. As most people recognize, leadership cannot be based on past successes alone. The seminar looked at five stories of successful steps toward sustainable development based primarily if not exclusively on pre-1992 laws—stratospheric ozone, water quality, hazardous waste, soil erosion from agriculture, and integrated pest management. [27 ELR 10514] In one important case—land use—urban sprawl appears to be getting worse, though greenways and greenbelts mitigate or control its effects in some places. Only two of the environmental matters studied in the seminar seemed to evidence some pronounced change toward sustainable development. These are ecosystem management in national forests and environmental technology.

None of the success stories, moreover, represents sustainable development. Each is simply a step toward sustainable development. As important as it is to recognize the achievement of intermediate goals, these achievements must not be confused with sustainability itself. For that reason, as explained in the recommendation section, the United States cannot rest on its current successes.

The protection of the stratospheric ozone layer, while far from assured, is an important success story. Agenda 21 calls on countries to protect the stratosphere from ozone-depleting chemicals. The 1985 Vienna Convention for the Protection of the Ozone Layer¹⁰⁹ set a framework for international action to address this issue. A layer of ozone molecules in the stratosphere limits the amount of ultraviolet radiation that reaches the earth. In the 1970s and 1980s, scientists found that certain chemicals emitted at or near ground level rise to the stratosphere and react with these molecules, destroying them. The increase in resulting ultraviolet radiation can damage the human immune system, cause skin cancer and blindness, and adversely affect ocean and land-based ecosystems.¹¹⁰

In 1987, following the discovery of almost incontrovertible evidence that certain chemicals were causing a thinning of the stratospheric ozone layer, the parties to the Vienna Convention adopted a protocol in Montreal¹¹¹ that called for a substantial reduction in the production of specified chemicals, including chlorofluorocarbons (CFCs) and halons. The protocol has been amended and adjusted by the conference of the parties on a regular basis since then, including amendments made in London in 1990 to ban production of CFCs and most uses of halons.¹¹²

Congress responded to these international commitments in two ways. As part of the 1989 and 1990 budget reconciliation laws, Congress adopted an excise tax on the sale or use of certain ozone-depleting chemicals.¹¹³ The tax increased annually on a per-pound basis. In 1990, Congress also passed amendments to the Clean Air Act¹¹⁴ to directly carry out the country's obligations to phase out or reduce the use of these chemicals.¹¹⁵

The United States has successfully implemented these treaty commitments. On January 1, 1996, for example, U.S. industry ceased producing CFCs for domestic use, complying with an important deadline under the treaty. This achievement is particularly remarkable because the United States is the world's largest consumer of ozone-depleting chemicals and because U.S. industries used about one-third of all such chemicals.¹¹⁶ By doubling and then tripling the

price of CFCs, the tax may have had a greater effect on CFC production than the formal phaseout provision.¹¹⁷

The basic laws for this effort, though, were adopted before 1992. For stratospheric ozone, the regular meetings of the conference of the parties continue to produce adjustments and amendments to the protocol. These include the 1992 decision to accelerate the phaseout of CFC production. But the basic legal structure for these changes, both internationally and domestically, was already in place when Agenda 21 was adopted.

Other success stories are based entirely on domestic environmental protection efforts. Agenda 21 recommends the development of government programs to protect water quality,¹¹⁸ for example, even though the United States has had for several decades one of the most effective water quality protection programs in the world. The control system established by the Federal Water Pollution Control Act (FWPCA)¹¹⁹ has markedly improved the quality of America's lakes, rivers, and streams.

Similarly, Agenda 21 proposes that governments ensure the proper management of wastes that are generated.¹²⁰ The Resource Conservation and Recovery Act (RCRA),¹²¹ The federal statute that governs hazardous waste management, has the same goal.¹²² This is one of many instances where Agenda 21 simply tracks preexisting U.S. law. RCRA, which was enacted in 1976 and amended in 1980 and 1984, establishes a stringent regulatory program for the treatment, storage, and disposal of hazardous waste.¹²³ At the federal and state levels, and sometimes at the local level, this program is backed by formidable enforcement capability. Before RCRA's enactment, most hazardous waste generated in the United States was disposed of or incinerated in ways that polluted groundwater, contaminated drinking water, and caused other human health and environmental problems. Since RCRA's adoption, those risks have been substantially reduced.¹²⁴

In some cases, the success stories build on even earlier achievements. Agenda 21 identifies soil erosion as an important problem for large areas of agricultural land in both developed and developing countries, and calls on nations to prepare and implement soil conservation programs.¹²⁵ Soil erosion represents the loss of valuable soil and thus can threaten the long-term sustainability of agriculture in a [27 ELR 10515] particular area. Sediment in streams and rivers increases the erosive power of running water and smothers bottom dwelling organisms and fish eggs.

Congress first addressed the loss of fertile soil through wind and water erosion in the Soil Erosion Act of 1935,¹²⁶ which created the Soil Conservation Service (SCS) within the U.S. Department of Agriculture (USDA). The SCS provided assistance to farmers to reduce soil erosion, and has been widely credited with reducing the most severe erosion. It was part of a larger set of programs providing farmers with incentives and subsidies for growing certain crops and using certain farming methods. Congress reviews and modifies these programs roughly every five years.

The most significant soil conservation provisions since 1935 were included in the Food Security Act of 1985.¹²⁷ The conservation provisions in that legislation were intended to preserve cropland and protect the environment at the same time. The Act gave farmers three choices for highly erodible lands. They could enroll that land in a conservation reserve program, removing it from production for 10 years in return for annual rental payments from the federal government. They could continue cultivating it, but only with an approved conservation plan. If they had not cultivated it before 1985, they could begin cultivation only with an approved conservation plan. Without that plan, they were ineligible for most federal farm benefits and commodity programs.¹²⁸ This was the first time a farmer's eligibility for such benefits had been tied to conservation. The 1985 legislation was renewed and slightly modified in 1990¹²⁹ and in 1996.¹³⁰

This legislation has led to a significant reduction in soil erosion. The Natural Resources Conservation Service, which the SCS was renamed in 1995, estimates that agricultural soil erosion declined from 3.1 billion tons per year in 1982 to 2.1 billion tons per year in 1992.¹³¹ In the 10 years after the 1985 farm bill, 143 million acres of highly erodible land were covered by conservation plans.¹³²

In some areas, such as integrated pest management, new or expanded voluntary or regulatory programs are taking additional steps on a course where significant efforts have already been made. Agenda 21 calls on governments to improve programs that put integrated pest management practices in the hands of farmers, using research institutions and extension networks.¹³³ It also encourages governments to educate farmers about integrated pest management.¹³⁴

Chemical pesticides came into widespread use more than 50 years ago because they are an easy and labor-saving way to get rid of insects and other pests. But they can also kill beneficial insects such as honeybees, contaminate groundwater, leave residues on food, and poison farm workers. Integrated pest management provides a means of

minimizing chemical pesticide use through utilization of other controls, including insect predators and pathogens as well as planting practices.¹³⁵ In the early 1990s, according to the USDA, about half of the country's cropland acreage was subject to some type of integrated pest management.¹³⁶

This type of management was driven largely by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1947,¹³⁷ which established a registration system for pesticides. Although the Act allowed the continued use of many older pesticides, it had the effect over time of greatly increasing pesticide costs. Despite the economic incentive this provided for integrated pesticide management, many farmers have been reluctant to employ this method. Their primary reasons are a lack of research about what will work for their particular crops in their particular part of the country, their lack of awareness of the research that has been done, or both.¹³⁸

In the past several years, the federal government has taken several actions that should increase the use of integrated pest management. In 1996, Congress amended FIFRA to provide an overall stronger standard for pesticide residues in all food; that amendment will likely increase interest in integrated pesticide management.¹³⁹ Congress also required the USDA to implement "research, demonstration, and education programs" to encourage use of integrated pest management.¹⁴⁰ In addition, the Clinton Administration has established an administrative program to encourage the use of integrated pest management.¹⁴¹

Though there have been many relative successes, some problems are getting worse. Perhaps the most prominent example is an area traditionally addressed at the local or state level—land use and urban sprawl. To be sure, some individual state or local efforts illustrate progress against sprawl. Some of these stories concern greenways or greenbelts—natural corridors, recreational pathways, and open spaces. As good as some of these stories are, greenways and other land use methods do not appear to have significantly slowed overall urban sprawl.

Agenda 21 calls on governments to "facilitate allocation of land to the uses that provide the greatest sustainable [27 ELR 10516] benefits."¹⁴² To do this, it suggests that their land use management decisions integrate environmental, social, and economic factors and that they consider the natural resources and ecosystems in the land itself.¹⁴³ By considering all factors, they are likely to "move toward more effective and efficient use of land and its natural resources."¹⁴⁴ Land is not simply a commodity, Agenda 21 suggests; it is also part of a living natural system.¹⁴⁵ This chapter of Agenda 21, of course, is relevant to all of the other conservation issues in Agenda 21 as well as to many social and economic issues.

Greenways and greenbelts¹⁴⁶ serve multiple functions. They protect natural areas such as river shorelines, they provide a place for nonmotorized transport and exercise, and they reduce urban sprawl. While greenways and greenbelts are not the only means of achieving this result, they illustrate the opportunities and challenges. The Oregon legislature, for example, designated the Willamette River corridor as a greenway in 1967.¹⁴⁷ By limiting development along the river and by acquiring land, the state has turned the deteriorated river waterfront into one of the longest continuous greenways in the United States. The city of Portland has used a greenbelt around the city to reduce urban sprawl and to foster greater development within the city itself.¹⁴⁸ Maryland, which seeks to connect natural corridors around the state, has built more than 900 miles of greenways.¹⁴⁹

There is some evidence of increased efforts in the 1990s by state and local governments to both combat sprawl and encourage greenways. But the overwhelming evidence is of continued sprawl that dwarfs efforts made to mitigate or control its effects. Pennsylvania, which has experienced only a 20 percent population increase in the last 50 years, has lost more than four million acres of farmland to sprawl in that time.¹⁵⁰ In 1903, for example, Harrisburg, Pennsylvania, became one of the nation's first cities to build a greenway. But it was never completed. While there is a prominent local effort to rehabilitate that greenway, the entire region is subject to continuing, even accelerating, construction of strip malls and subdivisions.

Only two of the environmental areas studied in the seminar provided evidence of a significant change in trajectory toward sustainable development. And even in these areas, the change in trajectory is qualified or incomplete. One of these involves federally owned forest land. Use of national forests to provide resources does not necessarily ensure long-term protection of forest ecosystems; it may even damage them. Agenda 21 thus calls on governments to simultaneously ensure the sustainable management of forests and to maintain and increase their ecological, biological, and economic contributions.¹⁵¹ The separately adopted statement of forest principles provides that forest management and conservation decisions should be based on a "comprehensive assessment of economic and non-economic values of forest goods and services and of the environmental costs and benefits."¹⁵²

In 1960, Congress recognized that the national forests needed to be managed for a variety of purposes, including recreation, and that these purposes often conflicted with each other. The Multiple-Use Sustained-Yield Act¹⁵³ calls on the U.S. Forest Service, which is part of the USDA, to manage forests by providing for a combination of uses that will best meet public needs. In practice, however, that tended to mean management for logging, mining, and grazing. To reconcile these conflicts in a more appropriate manner, Congress adopted the National Forest Management Act (NFMA)¹⁵⁴ in 1976. Although this legislation preserved the Multiple-Use Sustained-Yield Act, it required the Forest Service to adopt and maintain land and resource management plans for each unit in the National Forest System.¹⁵⁵

On the second day of the Earth Summit, June 4, 1992, the Forest Service officially adopted an ecosystem management approach for planning within the National Forest System.¹⁵⁶ Ecosystem management, according to the Forest Service, is "an ecological approach to achieve the multiple-use management of national forests and grasslands by blending the needs of the people and environmental values in such a way that national forests and grasslands represent diverse, healthy, productive, and sustainable ecosystems."¹⁵⁷ The previous approach focused mainly on producing selected forest products rather than "on the processes that keep ecological systems healthy, diverse, and productive."¹⁵⁸ Protecting and maintaining biodiversity, the agency concluded, would actually sustain all forest resources better than protecting only selected resources.

The Forest Service has begun to implement this directive administratively in many national forests. In 1993, for example, it began implementing a presidential plan for all [27 ELR 10517] forests in the Pacific Northwest that includes watershed and biodiversity conservation as well as assistance to communities affected by the logging restrictions inherent in ecosystem management.¹⁵⁹ On April 13, 1995, the Forest Service proposed to amend its existing regulations under the NFMA to ensure ecosystem management.¹⁶⁰ Although the proposal has not yet been adopted as a final regulation, it is nonetheless an important step forward because it represents the agency's apparent commitment to translating sustainable development principles into law.

This administrative effort, however, has been compromised by 1995 legislation authorizing salvage sales of timber on national forest land using an expedited procedure that expressly exempts those sales from many environmental laws.¹⁶¹ The ostensible purpose of the legislation was to facilitate the removal of timber that has been damaged by forest fires or insect infestations. But the definition of "salvage timber sale" includes trees that have not been damaged so long as there is an "identifiable salvage component" of damaged trees.¹⁶² Although the legislation expired at the end of 1996,¹⁶³ it is far from clear that these timber sales have been managed in an environmentally protective manner.¹⁶⁴ Because the legislation has not been renewed, it seems likely that the Forest Service's efforts to move toward sustainable forestry will continue.

The other area where recent progress appears evident is environmental technology. Agenda 21 recognizes that science and technology are necessary to sustainable development.¹⁶⁵ Energy efficiency, renewable energy, pollution-free factories, and other sustainable practices require the widespread use of technologies that do not yet exist or are only now being developed. Information technology can make farmers aware of the economic and other values in integrated pesticide management and erosion control, and how to apply those practices. Coral reef protection, sustainable forestry, and other activities require a level of scientific understanding about the relationship between human and natural activities that is far from complete.

Agenda 21 thus encourages "communication and cooperation among the scientific and technological community, decision makers, and the public."¹⁶⁶ Such interactions would help ensure that scientific research and technological development further national sustainability goals, inform governmental decisionmakers about the effects and limits of science and technology, and enhance public understanding of these issues.

The Clinton Administration has described promotion of environmental technology as a "high priority."¹⁶⁷ To this end, the National Science and Technology Council, a cabinet-level council responsible for coordinating federal policy on these issues, produced separate reports in 1994 and 1995. The first, *Technology for a Sustainable Future*, explained that scientific creativity and innovation were major sources of national strength, and that they should be directed toward sustainable development.¹⁶⁸ The second, *Bridge to a Sustainable Future*, contains a national environmental technology strategy.¹⁶⁹ It identifies ways of achieving "continuous improvement of the environmental performance of U.S. industries,"¹⁷⁰ more efficient use of energy and materials, and reduced time between development and commercialization of technologies.

These reports have fostered the sharing of information and ideas among a relatively small number of environmental professionals, but have not engaged the public or much of the business community. Like the PCSD report, these reports

only contain recommendations; they are not self-implementing.

Still, the Administration has implemented some of these recommendations. Seizing on the environmental protection interest shown in other countries, the United States has aggressively—and somewhat successfully—sought to export its environmental technologies. The United States has developed a considerable environmental technology infrastructure because of its environmental laws. The Commerce Department recently reported that the country exported \$ 14.5 billion in environmental technology in 1995, a 50 percent increase from 1993.¹⁷¹ U.S. exports of environmental technology, however, are smaller than those of Germany and Japan.¹⁷²

[27 ELR 10518]

The United States Has Made Progress on Some Social and Economic Issues in the Past Five Years But Not on Others

Social and economic issues are essential to sustainable development because food, shelter, clothing, and access to medical care are among the basic human needs. Sustainable development, after all, is human development. Americans have a tendency to see the social and economic issues as the exclusive concern of developing countries because of the enormous wealth and social opportunity that exist throughout most of the United States. But the widening gap between the rich and the poor means that social and economic concerns must also be part of the American sustainable development portfolio.

The seminar covered three of these issues—affordability of housing, health care for women, and the opportunity to earn a sustainable livelihood. For those in the lower stratum of social and economic life, the evidence is mixed. The infant mortality rate and the poverty rate are somewhat lower. But housing is becoming less affordable and the number of people without health insurance is growing. The recently enacted welfare reform legislation will likely have a major effect on these disparate trends.

Adequate housing is essential to sustainable development. Agenda 21 recognizes that "access to safe and healthy shelter is essential to a person's physical, psychological, social and economic well-being."¹⁷³ Among other things, it calls on governments to establish or improve shelter strategies¹⁷⁴ and to amend land use and other laws to facilitate access to shelter.¹⁷⁵ To do so, it encourages the creation of public-private partnerships as well as pragmatic but innovative mechanisms to provide housing.

Similarly, the 1949 Housing Act declares that every citizen should have access to a decent and suitable home.¹⁷⁶ That Act, which was amended in 1990,¹⁷⁷ is part of a large and complex federal housing strategy. Yet despite this strategy and some impressive local successes, there is considerable evidence that housing has become less affordable and less available to low-income persons since the late 1980s.¹⁷⁸

The 1990 legislation establishes several programs to improve housing availability and affordability, but these programs have not yet generated significant results. An important feature of the 1990 legislation is the requirement that states or municipalities seeking federal funds examine their own shelter programs and develop solutions that use both public and private money.¹⁷⁹ Although these consolidated plans require both innovation and public-private partnerships, the 1995 issuance of regulations for these plans means that it is too early to know how well they will work. Perhaps more importantly, budget cuts enacted during the past four years have meant major reductions in federal support for housing for the poor.¹⁸⁰

Adequate health care is also essential to sustainable development. Agenda 21's detailed chapter on human health includes provisions for ensuring that women have access to preventive and curative health care.¹⁸¹ Preventive health care includes education, family planning, prenatal care, and cancer screening; curative health care is necessary when a woman becomes ill and needs treatment. Such care is necessary, Agenda 21 says, to allow women to play their important roles in society and to enable them to develop to their full potential.¹⁸² Medical technology, doctors, and facilities in the United States are among the best in the world, but the United States lags behind many other countries in access to health care. This is particularly true for women.¹⁸³

The Year 2000 Health Objective Planning Act,¹⁸⁴ which was enacted in 1990, set national health goals. Data developed to monitor those goals indicate that the United States is progressing toward some goals but not others, that access to health care varies by race, and that the country lags behind other developed nations. Between 1991 and 1994, the infant mortality rate dropped from 8.9 per 1,000 live births to 8.0 per 1,000, the lowest rate ever in the United States.¹⁸⁵ This is still one of highest infant mortality rates among the industrialized countries. In that same period, the percentage of

low birth weight newborns increased.¹⁸⁶ Lack of access to health care contributes to high infant mortality rates and the high incidence of low birth weight infants. Lack of access also varies by race; Caucasian women are more likely to receive prenatal care in the first trimester of pregnancy than African-American or Hispanic women.¹⁸⁷

While most Americans have reasonable access to health care through a variety of governmental and private health insurance programs, about 40 million Americans, including 19 million women and 10 million children under the age of 18, currently have no health insurance.¹⁸⁸ In addition, the number of uninsured people appears to be growing.¹⁸⁹ President Clinton, of course, made an unsuccessful effort to persuade Congress to adopt universal health care coverage in his first term. Regardless of who gets the blame or credit, the fact remains that these people are still uninsured.

[27 ELR 10519]

Housing and health care are fundamental, but so is the opportunity to work and earn a decent living. Thus, the first objective of Agenda 21's program to combat poverty is to provide everyone "with the opportunity to earn a sustainable livelihood."¹⁹⁰ It also calls on governments to implement programs with adequate financial support to achieve this objective.¹⁹¹ A sustainable livelihood, Agenda 21 suggests, provides a person with an income that gets him or her out of poverty, contributes to economic development, and also fosters the sustainable management of resources.¹⁹² The person's very work, in other words, is sustainable development.

The remarkable economic growth that the nation has experienced in the past several years has contributed to low unemployment rates. This has been due, in no small part, to a variety of governmental actions intended to foster economic growth, including reductions in the federal budget deficit. Between 1985 and 1993, the fraction of Americans living in absolute poverty increased from 14.0 percent to 15.1 percent.¹⁹³ By 1995, though, it had dropped to 13.8 percent.¹⁹⁴ For children, African Americans, and Hispanics, the numbers are much higher even though the trend is the same.¹⁹⁵

For the past 60 years, the country has had in place a variety of programs providing direct and indirect financial assistance to persons living in poverty. Congress and the President came to believe that these welfare programs contributed to chronic dependency by many of those receiving aid. At the same time, the level of assistance failed to lift people out of poverty. In 1996, the President ended welfare as we know it by signing into law the Personal Responsibilities and Work Opportunity Reconciliation Act.¹⁹⁶ In general, the legislation eliminates any federal entitlement to assistance, establishes a five-year lifetime limit on the number of years a person may receive assistance, and requires those receiving assistance for more than two years to work.

This legislation poses two challenges for government as well as private employers. The first is to ensure that jobs are actually available for those who will no longer be able to receive welfare. In the early phases of welfare reform, caseloads are going to go down, in part because of successful efforts to connect welfare recipients to jobs and in part because of tough sanctions for those who fail to respond to the new requirement to work. However, as states begin to cut off assistance to those who have received welfare for a total of five years, it appears likely that many thousands of families will be left with no means of support. Some will be capable of working but jobs will not exist in the rural or urban labor markets where they live. Still others will try to support their families on minimum wage or part-time employment, and will be unable to afford adequate food, housing, or other necessities.

The second challenge is to help people obtain the skills necessary to get and hold a paying job. Some welfare recipients are unemployable due to lack of education or vocational skills, disability, lack of access to adequate transportation or child care, mental illness, or other serious difficulties. Without a genuine commitment to helping these people, welfare reform will simply increase poverty and homelessness, moving the nation away from this important aspect of sustainable development.

It is too soon to tell whether these challenges will be met. But the evidence to date suggests a greater interest in terminating welfare than in providing the jobs and other assistance that are necessary to make those now depending on governmental assistance productive members of society. If that is the case, access to housing and health care will further decline.

Recommendations

The United States Should Adopt an Overall Sustainable Development Strategy

The United States should adopt a sustainable development strategy—a dynamic approach to decisionmaking that moves existing legal and organizational structures toward sustainable development, institutionalizes the basic premises and goals of sustainable development in decisionmaking processes, and is capable of proactive decisions as well as appropriate responses to unexpected events. The United States will be in a strong position to exert international leadership at the Rio-plus-ten meeting in 2002 if it begins to put that strategy in place now. The strategy should include means of progressively integrating decisionmaking on social, economic, and environmental issues to foster sustainable development; corresponding changes in our laws; and the use of satellite systems of social and environmental accounting to supplement the GDP. The strategy should also include goals; indicators of progress toward those goals; and assignment of responsibility for achieving those goals to particular agencies, levels of government, or nongovernmental actors. The federal government should provide a framework for public discussion and action, and should encourage all parts of society and all levels of government to play a role in sustainable development.

The strategy should also identify priorities. Consumption, climate change, and official development assistance should be among them. A meaningful approach to these problems would help address many of the rest. Short-term and long-term goals, particularly for difficult issues such as energy and materials consumption, would also be appropriate.

The strategy cannot be the responsibility of the President or executive branch alone. Congress, after all, writes the laws as well as the federal budget. Without a mutual understanding between the two branches, implementation of a national strategy will be impossible.

The United States cannot even begin to have that strategy and these components in place until it has an administrative entity to coordinate executive branch actions concerning sustainable development. Wherever that entity is located, **[27 ELR 10520]** it should have the legal authority to do the job.¹⁹⁷ Among other things, that entity should be responsible for developing, and coordinating the development of, proactive U.S. government positions on a variety of domestic and international issues relating to sustainable development. Such coordination should also include coordination between the international and domestic sides of the federal government. In addition, the entity should identify major gaps between U.S. domestic and international policy and the commitments in Agenda 21, and develop options for closing those gaps. And it should review major proposed legislation, including budget and appropriations legislation, for its potential to further or impede sustainable development goals.

Fortunately, the United States has in place part of the legal and policy foundation necessary to build such a strategy. In the National Environmental Policy Act (NEPA),¹⁹⁸ Congress declared the "continuing policy of the Federal Government" to "create and maintain conditions under which man and nature can exist in productive harmony, and to fulfill the social, economic, and other requirements of present and future generations of Americans."¹⁹⁹ That and other language in the statute endorse what is now called sustainable development.²⁰⁰ The Act is most widely known for requiring federal agencies to prepare an environmental impact statement before conducting any major actions that may significantly affect the environment. But its essential lesson—that agencies must integrate environmental thinking into their decisionmaking processes—goes to the core meaning of sustainable development. In addition to preparing such statements, NEPA also requires agencies to propose any changes necessary to their existing statutory authority to harmonize their activities with the purposes of the Act.²⁰¹ The Clinton Administration or its successor could easily use NEPA as a platform for a sustainable development strategy. Although many changes would require legislative approval, unifying the executive branch on this existing framework would be an important step in the right direction.

The Administration's efforts to foster more efficient government, based primarily on Vice President Gore's National Performance Review, provide another part of the foundation. The basic premise, as expressed by the Vice President, is that government should work better and cost less.²⁰² The context, of course, is a shrinking federal budget. Sustainable development could play a significant role in making government more efficient. Efforts by federal agencies that further social, economic, and environmental goals at the same time are likely to be more efficient than efforts directed at only one goal. An integrated approach is also likely to prevent problems that would cost much more to alleviate later. Most importantly, perhaps, the daunting scope of many of these problems means that they can be resolved only if the government acts efficiently.

Indeed, the national effort to reinvent government in this manner underscores the importance of a national strategy. The essential features of that approach were enacted in the Governmental Performance and Results Act of 1993.²⁰³ The Act obligates federal agencies to establish specific performance goals and performance indicators showing progress in achieving them, and sets a schedule for doing so.²⁰⁴ The U.S. government can ensure that these agency strategies consistently foster sustainable development only if they are reviewed for that purpose by a single executive agency and only if congressional oversight of these strategies is supportive of that goal.

The PCSD recommendations in *Sustainable America* and its various task force reports²⁰⁵ could provide much of the policy foundation for carrying out a strategy. A substantial consensus exists concerning many of the issues the PCSD addressed, and it would be relatively easy for the Administration to use these recommendations as a starting point. With those recommendations in hand, it could begin serious conversations with members of Congress and others who are ordinarily involved in governmental decisionmaking. Because it lacks legal authority, of course, the PCSD cannot directly implement its recommendations.

The establishment of goals and the use of indicators are essential parts of any national strategy. Sustainable development goals, if adopted in a publicly accepted manner, would provide the United States with a more precise and focused understanding of what it is trying to achieve through sustainable development. If the scientific and technological community is to be fully engaged in a national sustainable development effort, for example, the goals toward which that effort is addressed must be more clearly articulated. In the absence of a coherent overall strategy, and the public and private funding that would accompany such a strategy, the country's impressive scientific and technological capability will not be fully engaged. Reducing greenhouse gas emissions, for example, will require a substantial and coordinated technological development effort. The export of environmental technology builds on the country's relative success in pollution control, but it is also essential to be able to respond to new problems.

Sustainable development indicators would allow a public understanding of how the United States is actually doing, and would encourage efforts to ensure that the goals are met. "If the United States is serious about sustainable [27 ELR 10521] development," the PCSD said, "it needs to generate better tools for measuring the public value—including the economic value—of the things that are important to the nation."²⁰⁶ Both goals and indicators are essential. Indicators without national goals measure things that people may not care about, but goals without indicators cannot credibly be achieved.

President Clinton took a modest step in the direction of a sustainable development strategy when he addressed the special U.N. General Assembly meeting in June 1997. In this speech, the President said the United States would bring to the Kyoto conference on the Climate Change Convention "a strong American commitment to realistic and binding limits that will significantly reduce our emissions of greenhouse gases."²⁰⁷ Because of the breadth of potential actions covered by any such proposal, the country has an opportunity to use climate change to develop a major part of a national sustainable development strategy. But it would only be part of a national strategy, and a great many activities unrelated to climate would be excluded. Moreover, the commitment in the speech includes none of the most basic elements of a strategy, such as the legal authority to implement it.

The United States Should Educate the General Public About the Need for Sustainable Development and Should Foster an Open and Robust Debate About the Choices the Nation Faces

A defining characteristic of the American presidency is the ability to educate the public and enlist support for important issues. President Clinton's successful effort to secure Senate ratification of the chemical weapons treaty is an example of effective leadership from the spring of 1997. Without a similar effort by this Administration, or its successor, the United States is highly unlikely to have a robust and open discussion about sustainable development.

The President needs to explain why sustainable development is necessary and why it is in this country's interest to move toward sustainable development. The President can do this in a way that no one else in or out of government can match.

An essential part of the effort is framing sustainable development in a way that the public can understand. This is particularly important because sustainable development will not happen unless individuals, corporations, governments, and others do the right thing for their own personal or organizational reasons. They are much more likely to do the right thing if they understand what sustainable development means in particular situations. Abstractions, plans, and theories are necessary, but examples and success stories are more likely to be understood. For those who are looking, individual success stories abound.²⁰⁸ These stories should be told, and told much more often.

It is also essential to help people understand that sustainable development concepts have roots that go back at least a century in American history. For example, management of national forests for the sustained production of timber, pulpwood, and other resources has been a function of the Forest Service since it was created in 1905. "The conservation of natural resources is the key to the future," wrote Gifford Pinchot, its first director.²⁰⁹ "The very existence of our nation, and of all the rest, depends on conserving the resources which are the foundations of its life."²¹⁰ The conservation movement, of which President Theodore Roosevelt was a leader, thus provides one of the key

premises for sustainable development. The current debate includes climate change and ecosystem management, but the need to protect natural resources continues.

Another essential part of the public education effort is making the public aware of the choices it has and the implications of those choices. There is a tendency to either deny the existence of the problems sustainable development confronts or to believe that these problems mean impending doom. The more likely reality is that the country will face an extremely challenging and complex set of problems over the next century. Addressing these problems will involve difficult and even painful trade offs. The public needs to be brought into the discussion about these choices.

Government agencies, among others, can play a key role by fostering public debate about how to accomplish sustainable development in their programs. The Forest Service again provides an example. The notice-and-comment rulemaking process facilitates public discussion as well as comments to the Forest Service about the precise meaning of ecosystem management. The regulations proposed in 1995 would require each forest plan to include sustainable ecosystem goals for the plan area as well as a method for achieving them.²¹¹ The proposal raises many questions. Is it better to focus on protecting threatened species or on protecting the entire ecosystem? Should ecosystem studies be optional or required? Should indicator species be used to measure a plan's success? However these questions are answered in this rulemaking, the agency has at least fostered a constructive debate about an important issue.

The President took an important step in the direction of public education when he spoke about climate at the Rio-plus-five General Assembly meeting. "The science is clear and compelling: We humans are changing the global climate," he said.²¹² He then explained that global warming could mean flooding of coastal areas in the United States as well as increased deaths from heat and disease.²¹³ It was the first time that a U.S. President had talked about climate change in those terms. One speech does not educate the public, of course. And one might wish he had also discussed the positive side—the cost [27 ELR 10522] savings and improvements in human quality of life that could accompany greater energy efficiency. In addition, as already noted, climate change is only part of the sustainable development picture. But it was a start.

Education about technical problems is also important. Without educational opportunities on specific issues, existing methods and technologies for sustainable development may simply go unused. In hazardous waste minimization and integrated pest management, for example, there already exist ways to protect the environment and save money at the same time. If people do not know that they exist or might exist, they will not be used.

Finally, schools should find ways to bring sustainable development into the classroom. For most, these efforts would simply build on existing environmental education programs. Tomorrow's voters and decisionmakers would then be much better equipped for the integrated social, economic, and environmental thinking required for sustainable development.

The United States Should Comprehensive and Fully Address the New Issues Raised in Rio

Any national strategy needs to directly and seriously deal with consumption, climate change, government assistance to other countries for sustainable development, and the other new issues raised at the Earth Summit. The President's Rio-plus-five speech on climate change obviously addressed one of these issues raised at Rio. Although the resolution of these issues will be challenging and complex, two parts of this effort need to be emphasized.

To begin with, the PCSD recommended the establishment of a national commission to review the effect of taxes and subsidies on sustainable development.²¹⁴ This recommendation is particularly important for climate change and the consumption of energy. The Administration has already recognized the importance of increased energy efficiency, and experience shows that taxed goods are used more efficiently than other goods. The tax on ozone-depleting chemicals shows that taxes on particular items can encourage the use of substitutes. Perhaps the largest contradiction in our tax policy is that the country tends to tax activities we favor, such as income, employment, and profits, while tending not to tax things we dislike, such as inefficiency and pollution.²¹⁵ A national commission could make recommendations on how to begin a shift in the tax burden from one to the other. A national commission might also defuse some of the political controversy that the Btu tax proposal engendered in the early months of the Clinton Administration. That commission, however, has not been appointed. It should be, but only as the first step toward shifting some part of the tax base in this manner.

As the PCSD Task Force on Population and Consumption concluded, no other change in national policy would have a greater effect in fostering sustainable development, and at so little cost.²¹⁶ By taxing the use of fossil fuels and other

natural resources more, and personal and corporate income less, the country could encourage individuals and corporations to use more renewable sources and to use energy more efficiently. It could also make it easier for employers to hire additional workers, including former welfare recipients. The magnitude and complexity of shifting taxes in this way are plainly large, but the commission can begin the job of sorting out those issues.

In addition, the United States needs to increase the level of official development assistance it provides for sustainable development to meet the 0.7 percent commitment. As previously indicated, this means both an increase in assistance and redirection of that assistance to sustainable development. Much of current assistance is directed to the World Bank and other multilateral lending institutions whose projects are not always consistent with sustainable development. Some of it, unfortunately, has been squandered by corrupt governments. As already noted, the United States appears to be providing more funding for sustainable development. By identifying needs not met by private capital, by ensuring that the money will be well spent, and by increasing its share of official development assistance, the United States could make a major contribution to sustainable development in developing countries. The United States will not be able to claim international leadership on sustainable development unless it plays a leadership role on this issue.

The United States Should Expand Its Sustainable Development Efforts Concerning Environmental Protection

Even on those issues where the United States has had some success, it needs to continue and enhance its efforts. This work has at least four aspects. The country needs to preserve its successes and make further progress in achieving national goals. In addition, the nation's environmental goals need to be redirected in ways that are more sustainable. A better understanding of how to protect ecosystems that humans use is also essential. Finally, the country needs to better involve state and local governments in these efforts.

First, it is important to preserve and enhance our successes. A black market for CFCs could undermine the production ban adopted by the United States and other countries. Newspaper accounts suggest that CFC smuggling may be more lucrative than drug smuggling.²¹⁷ Thus, vigilant law enforcement will continue to be necessary. Because stratospheric ozone depletion ultimately affects all countries, global cooperation will also need to continue. To the extent that Russia's economic situation prevents it from participating in the treaty, financial and other assistance will be important.²¹⁸

It is also essential to build on what has been achieved. A central lesson from the country's soil conservation efforts is that prior achievements may not be good enough over the long term. The 1985 farm bill and its successors have significantly reduced soil erosion from levels that many once considered acceptable under the 1935 Soil Erosion Act. The one-third reduction in agricultural soil erosion [27 ELR 10523] achieved under the 1985 legislation, however, is not likely sustainable over time for farmland productivity or for the health of streams and rivers. Further reductions will require continued education, advances in farming practices, and the creative use of various financial incentives, including tax credits, that do not involve direct federal payments. In fact, approaches requiring annual federal payments may not be sustainable over the long run because of the budget situation.

This conclusion applies to other issues studied in the seminar. The Forest Service needs to keep moving toward ecosystem management and sustainable forestry, for example. The evidence suggests that this is occurring in some national forests but not others. In addition, increased efforts to foster integrated pest management are needed to reduce the use of chemical pesticides.

Second, it is important to directly encourage those activities that are sustainable. Our previous success in addressing basic environmental problems, and the legal and administrative system on which those successes are based, can impede our efforts to take the necessary next steps.

Agenda 21 recognizes the importance of both conventional regulatory programs as well as economic instruments and other incentives to foster sustainable development. Traditionally, governments have used regulation to restrict the undesirable environmental and human health effects of particular activities.

When they do so, they usually intend to encourage other activities that will have beneficial effects. On many issues, though, regulation of a particular activity does not necessarily or fully encourage the results ultimately being sought. While U.S. efforts represent an impressive start to sustainable development, they do not fully represent sustainable development. In many cases, in fact, there is merger evidence of further steps since Rio.

On hazardous waste, for example, Agenda 21 proposes that governments prevent or minimize the generation of

hazardous wastes to the extent feasible, and then ensure the protective management of those wastes that are generated.²¹⁹ In 1984, a virtually identical hazardous waste minimization goal was added to RCRA, the *Resource Conservation and Recovery Act*.²²⁰ Preventing or minimizing the generation of hazardous waste reduces risks to human health and the environment, and can be more economically efficient than later controlling its disposal or treatment. Proper management of wastes is good, in other words, but minimizing or preventing them is better.

Generators who send their waste offsite must certify that they have "a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable."²²¹ Because the requirement is based on the generator's perception of what is practicable, it is virtually unenforceable. As a result, most hazardous waste reduction is driven simply by the desire to avoid regulation. Although changes in the definition of hazardous waste and other factors make it difficult to discern trends, it appears that the overall volume of hazardous waste has declined in the past two decades.²²²

It is highly unlikely, however, that hazardous waste generation has been reduced to the greatest extent feasible. The time and energy required to comply with RCRA's complex management regulations provide much of the reason. The basic problem is that incentives are not precisely calibrated to the performance being sought. Hazardous waste that is directly discharged to a sewage treatment plant as part of an industrial facility's domestic sewage, for example, is not regulated as hazardous. Because fewer pollutants are regulated as a result, the facility has an incentive to use this exemption rather than control waste generation.²²³

Within RCRA, the United States could foster more hazardous waste minimization or prevention in several ways. Congress, state legislatures, or state environmental agencies could write laws requiring it. Many states have passed such pollution prevention laws.²²⁴ The Dutch government has set specific waste reduction goals and is negotiating covenants with specific industries to achieve them.²²⁵ Congress or state legislatures could also create direct financial incentives for hazardous waste prevention, including tax credits. Better still, federal and state governments can and should foster coherent multimedia pollution prevention through amendments to existing laws.²²⁶

Similarly, Agenda 21 suggests that governments move toward water quality management on a watershed basis.²²⁷ While the U.S. Environmental Protection Agency and some state agencies have taken administrative and budgeting steps in that direction, real progress has not taken place. Agenda 21 suggests the propriety of looking at all effects of proposed projects in a particular watershed, including their effects on land use and human quality of life.²²⁸ The FWPCA, by contrast, requires regulatory agencies to concentrate virtually all of their attention on compliance with technology-based effluent limitations as well as in-stream water quality standards.²²⁹ This forces much of the regulatory discussion about a particular facility on a narrow set of effects. The risks associated with a particular discharge are often the subject of disagreement, even among experts.

Permitting and enforcement, of course, are never simply about human health and the environment. Economic issues, including jobs and protection of a local community, [27 ELR 10524] are almost always present. But many other issues are simply not addressed. An analysis of all social, economic, and environmental effects within a watershed could divulge risks and issues that are not usually addressed in narrower risk assessments, including impacts on people of color and the poor.²³⁰

A third need is to better understand natural features and the causes of their degradation. The most important coral reef ecosystem in the United States is that of south Florida and the Florida Keys. These reefs, which form the third largest barrier reef tract in the world, bring millions of tourists and hundreds of millions of dollars to the Florida economy. Coral reefs are also among the most biologically productive of all natural communities, providing habitat for fish, sea grasses, and mangroves.²³¹

Yet these reefs are threatened by several factors, including the increased salinity of the water that flows from Florida Bay to the Keys. For most of the past century, urban development and the drainage and conversion of the Everglades for agriculture have reduced the amount of freshwater that historically flowed into Florida Bay. Agricultural runoff, fishing, and other recreational activities also appear to threaten the reefs. The relative significance of each threat and the best means of addressing them are not certain.

To protect the reefs, Congress passed the Florida Keys National Marine Sanctuary and Protection Act in 1990.²³² The Act prohibits certain activities in the sanctuary and requires the development of a plan, which was recently approved,²³³ to prevent further degradation of the Florida Keys. The success or failure of efforts to protect the Florida coral reefs will require more complete understanding of the land- and ocean-based threats to these reefs and the best means of

protecting them.

A final need is to engage state and local governments to address national sustainable development problems that are primarily their responsibility. State governments and municipalities, which write most of the tax, zoning, and development rules that affect and generally encourage sprawl, are essential to controlling suburban sprawl and to developing greenbelts and greenways. The federal government could borrow a Canadian approach and foster or encourage state-level round tables among affected stakeholders to set goals and develop plans for particular states and municipalities.²³⁴ It would also be appropriate to consider national goals and to create legal and other incentives for meeting them.

The United States Should Enhance Efforts on Social and Economic Issues

Meeting the needs of the poor is obviously complex and difficult. But sustainable development offers an important perspective as well as an important insight into doing so.

Basic human needs, including clean air and clean water as well as food and shelter, are goals we should seek to realize for all members of our society. On women's health care, for example, those familiar with the health care debate know that the German, Japanese, and Dutch governments provide or require employers to provide health care to all their citizens. These countries are all economically competitive. Whether it is done piecemeal or in one act, all women will get access to health care in the United States only with some similar kind of health insurance. The same can be said for children and men.²³⁵

Part of providing a sustainable livelihood is ensuring that jobs are capable of bringing people out of poverty; minimum wage and part-time jobs are highly unlikely to do that. Thus, job training as well as assistance in finding jobs and progressing up the career ladder, among other things, must be available as part of welfare reform. While a job is preferable, a sustainable society should also find ways of meeting the basic needs of those who are unable to work or for whom a job is not available.

These needs are better met, and are easier to meet, if the country integrates its social, economic, and environmental goals. An increasingly popular method of removing housing affordability barriers is mixed-use zoning and development. Mixed-use zoning changes the fundamental premise of most American zoning law—single-use zoning. Single-use zoning tends to fragment communities by income, isolating poorer residents in enclaves. Mixed-use zoning can involve variably priced housing units for persons with different incomes as well as a mix of commercial and residential properties to foster a closer sense of community. City planners and private interests in Boise, Idaho, for example, developed a mixed-use housing and office project.²³⁶ New York City officials have eased zoning restrictions on commercial properties to facilitate their conversion to residential and mixed uses.

Mixed-use zoning has other benefits. It would provide many people, including low-income people, with an opportunity to live closer to their place of work.²³⁷ As a result, less money would be needed for automobile transportation. (The average family now spends about one-sixth of its income for that purpose.)²³⁸ The money saved could be spent on clothing or child care. People who can walk [27 ELR 10525] to work also get exercise, which will make them healthier. In addition, this type of zoning would foster relationships across race and economic class, and would enhance a sense of community in particular places. Partnerships are more likely where personal relationships exist outside the meeting room.

Conclusion

Sustainable development is about challenge, responsibility, and hope. If we are willing to recognize and confront our challenges, and accept responsibility for dealing with them, then we have reason to be hopeful about our lives and our future.

Several months ago, the PCSD issued a follow-up report to *Sustainable America* that included several fundamental recommendations. One was that the Administration fully incorporate sustainable development into its second-term agenda. A second was that the Administration fully participate in the Rio-plus-five U.N. General Assembly meeting. This meeting, the PCSD said, will provide an opportunity "for the United States to demonstrate continued international leadership on sustainable development."²³⁹

The United States can hardly lay much claim to international leadership based on actions taken in the last five years. In

addition, there is little evidence thus far that the Administration has incorporated sustainable development into its agenda. Nor is there much evidence of broad congressional interest in, or support for, sustainable development.

International meetings produce a lot of talk, and some of it is productive. But the key premise of Agenda 21 remains true: the success of UNCED depends on actions that are taken afterwards, all over the world, including in the United States. In June 2002, the General Assembly will meet again to discuss the progress that countries have made in implementing Agenda 21. If the United States takes Agenda 21 seriously, a Rio-plus-ten year review of U.S. actions will give young people more reason to be hopeful about the future. It is time—it is long past time—for concerted action.

[1.](#) U.N. CONF. ON ENV'T & DEV., AGENDA 21, U.N. Doc. A/CONF.151/6/Rev. 1 (1992), *reprinted in* 31 I.L.M. 881 (1992) [hereinafter AGENDA 21].

[2.](#) This effort built on the annual reviews performed since 1992 by the U.N. Commission on Sustainable Development.

[3.](#) U.N. GAOR, *Programme for the Further Implementation of Agenda 21* para. 4 (advance unedited text, July 1, 1997) [hereinafter *Programme for the Further Implementation of Agenda 21*]. See generally U.N. Env't Programme, *Global Environmental Outlook* (1997) (describing regional trends and concluding that environmental degradation is occurring in all regions).

[4.](#) *Programme for the Further Implementation of Agenda 21*, *supra* note 3.

[5.](#) *Id.* para. 137.

[6.](#) ORGANIZATION FOR ECONOMIC COOPERATION & DEV., ENVIRONMENTAL PERFORMANCE REVIEWS: UNITED STATES 129-30 (1996) (identifying these qualities as having particular importance for sustainable development).

[7.](#) Students registered for the seminar knowing that a report like this would be prepared afterwards. They were also asked to comment on a draft of this report, and most did.

[8.](#) U.N. CONF. ON ENV'T & DEV., CONVENTION ON BIOLOGICAL DIVERSITY, U.N. Doc. DPI/1307 (1992), *reprinted in* 31 I.L.M. 818 (1992) [hereinafter BIODIVERSITY CONVENTION].

[9.](#) U.N. CONF. ON ENV'T & DEV., FRAMEWORK CONVENTION ON CLIMATE CHANGE, U.N. Doc. A/AC.237/18 (1992), *reprinted in* 31 I.L.M. 849 (1992) (entered into force Mar. 21, 1994) [hereinafter FRAMEWORK CONVENTION ON CLIMATE CHANGE].

[10.](#) U.N. CONF. ON ENV'T & DEV., RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, U.N. Doc. A/CONF.151/5/Rev.1 (1992), *reprinted in* 31 I.L.M. 874 (1992).

[11.](#) U.N. CONF. ON ENV'T & DEV., NON-LEGALLY BINDING AUTHORITATIVE STATEMENT OF PRINCIPLES FOR A GLOBAL CONSENSUS ON THE MANAGEMENT, CONSERVATION AND SUSTAINABLE DEVELOPMENT OF ALL TYPES OF FORESTS, U.N. Doc. A/CONF.151/6/Rev. 1 (1992), *reprinted in* 31 I.L.M. 881 (1992) [hereinafter FOREST PRINCIPLES].

[12.](#) U.N. CONF. ON HUMAN ENV'T, *Action Plan for the Human Environment*, in REPORT OF THE UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT 6-28 (1973), U.N. Doc. A/CONF.48/14/Rev.1. The conference also produced a statement of principles. U.N. CONF. ON HUMAN ENV'T, STOCKHOLM DECLARATION, U.N. Doc. A/CONF.48/14/Rev.1, at 3 (1973), U.N. Doc. A/CONF.49/14, at 2-65, and Corr. 1 (1972), 11 I.L.M. 1416 (1972) [hereinafter STOCKHOLM DECLARATION].

[13.](#) AGENDA 21, *supra* note 1, para. 1.1.

[14.](#) *Id.* para. 1.6.

[15.](#) WORLD RESOURCES INST., WORLD RESOURCES 1996-97, at 173 (1996).

[16.](#) WORLD RESOURCES INST., RESOURCE FLOWS; MATERIAL BASIS OF INDUSTRIAL ECONOMIES iv-v (1997).

[17.](#) AGENDA 21, *supra* note 1, para. 1.1.

[18.](#) *Id.* para. 1.6.

[19.](#) *Id.* chs. 9-22.

[20.](#) *Id.* chs. 33-40.

[21.](#) WORLD COMM'N ON ENV'T & DEV., OUR COMMON FUTURE 43 (1987). Sustainable development is premised on the view that every human being has the right to "a decent life." *Id.* at 41.

[22.](#) AGENDA 21, *supra* note 1, para. 10.12.

[23.](#) *Id.* para. 8.5(g).

[24.](#) *Id.* ch. 28.

[25.](#) See generally Pierre-Marie Dupuy, *Soft Law and the International Law of the Environment*, 12 MICH. J. INT'L L. 420 (1991).

[26.](#) The President's News Conference in Rio De Janeiro, 1 PUB. PAPERS (GEORGE BUSH) 930 (1993).

[27.](#) *U.S. Statement for the Record on the UNCED Agreements*, U.S. DEPT OF STATE DISPATCH SUPPLEMENT, July 1992, at 35.

[28.](#) AGENDA 21, *supra* note 1, para. 8.7.

[29.](#) *Id.*

[30.](#) *Programme for the Further Implementation of Agenda 21*, *supra* note 3, para. 23.

[31.](#) AGENDA 21, *supra* note 1, para. 8.4.

[32.](#) *Id.* paras. 8.13-8.40.

[33.](#) *Id.* paras. 8.41-8.54.

[34.](#) *Programme for the Further Implementation of Agenda 21*, *supra* note 3, para. 24(a).

[35.](#) An Interagency Working Group on Sustainable Development was established in 1996. It has assembled a list of previously existing programs that can be labeled sustainable development programs. PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT, THE ROAD TO SUSTAINABLE DEVELOPMENT: A SNAPSHOT OF ACTIVITIES IN THE UNITED STATES OF AMERICA 24 (1997) [hereinafter SNAPSHOT OF ACTIVITIES]. This is obviously a far cry from coordinating national policy. At least three federal agencies have sustainable development offices—the Departments of Agriculture, Commerce, and Energy. *Id.* at 26-27.

[36.](#) Exec. Order No. 12852, 58 Fed. Reg. 35841 (July 2, 1993); 60 Fed. Reg. 57819 (Nov. 17, 1995) (adding new members).

[37.](#) PRESIDENT'S COUNCIL ON SUSTAINABLE DEV., SUSTAINABLE AMERICA: A NEW CONSENSUS FOR PROSPERITY, OPPORTUNITY AND A HEALTHY ENVIRONMENT FOR THE FUTURE 31-47 (1996) [hereinafter SUSTAINABLE AMERICA].

[38.](#) *Id.* at 89; see also Steve Lerner, *Brave New City? Chattanooga, Belle of the "Sustainable Cities' Ball*, AMICUS J.,

Spring 1995, at 22.

[39.](#) SUSTAINABLE AMERICA, *supra* note 37, at 147.

[40.](#) *Id.* at 161-62.

[41.](#) *See* SNAPSHOT OF ACTIVITIES, *supra* note 35 (describing various sustainable development activities).

[42.](#) SUSTAINABLE AMERICA, *supra* note 37, at 4-5.

[43.](#) *Id.*

[44.](#) U.S. Dep't of Energy, *Sustainability Success Stories from Renew America* (visited July 18, 1997) <http://www.sustainable.doe.gov/ss/success.html>.

[45.](#) U.N. DEP'T FOR POLICY COORDINATION & SUSTAINABLE DEV., LOCAL AGENDA 21 SURVEY (BACKGROUND PAPER 10) 6-7 (1997). Some community efforts for sustainable development are not based on Agenda 21, and are thus not included in this survey. Two states, Minnesota and Oregon, have significant sustainable development initiatives. SNAPSHOT OF ACTIVITIES, *supra* note 35, at 44-45.

[46.](#) *Greenhouse Emissions, Foreign Investment New Topics for President's Council Work*, Daily Env't Rep. (BNA) (May 16, 1997), available in LEXIS, Environment Library, BNANED File.

[47.](#) SUSTAINABLE AMERICA, *supra* note 37, at 18.

[48.](#) *Id.*; *see also* UNITED NATIONS, INDICATORS OF SUSTAINABLE DEVELOPMENT: FRAMEWORK AND METHODOLOGIES (1996) (proposed indicators for measuring progress in implementing Agenda 21).

[49.](#) PRESIDENT'S COUNCIL ON SUSTAINABLE DEV., BUILDING ON CONSENSUS: A PROGRESS REPORT ON SUSTAINABLE AMERICA 46-47 (1997) [hereinafter BUILDING ON CONSENSUS].

[50.](#) AGENDA 21, *supra* note 1, para. 36.8.

[51.](#) *Id.* para. 36.9.

[52.](#) *Id.* para. 36.10; *see also id.* para. 23.2 ("One of the fundamental prerequisites for achievement of sustainable development is broad public participation in decision-making.").

[53.](#) *Id.* paras. 8.11, 36.10.

[54.](#) *See, e.g.*, MARK K. LANDY ET AL., THE ENVIRONMENTAL PROTECTION AGENCY: ASKING THE WRONG QUESTIONS 7 (expanded ed. 1994) ("Government has the obligation to provide the civic education that strengthens the capacity of citizens for successful self-government.").

[55.](#) Sustainable Fisheries Act, Pub. L. No. 104-297, 110 Stat. 3559 (1996).

[56.](#) *See, e.g.*, AGENDA 21, *supra* note 1, ch. 30 (strengthening the role of business and industry).

[57.](#) SUSTAINABLE AMERICA, *supra* note 37, at i.

[58.](#) BUILDING ON CONSENSUS, *supra* note 49, at i-v.

[59.](#) *Id.* at 51; *see also* *President's Council on Sustainable Dev.* (last modified Apr. 14, 1997) <http://www.whitehouse.gov/WH/EOP/-pcsd/index.html>.

[60.](#) John H. Cushman Jr., *Adversaries Back Pollution Rules Now on the Books*, N.Y. TIMES, Feb. 12, 1996, at A1.

61. President William Clinton, State of the Union Address (Feb. 4, 1997) (transcript of environmentally related remarks available on *Council of Environmental Quality* <http://www.whitehouse.gov/CEQ>); President's State of Union Address, 33 WEEKLY COMP. PRES. DOC. 136 (Feb. 4, 1997).

62. The White House, *The White House Virtual Library* <http://library.whitehouse.gov/?request=all>. A search for the terms "sustainable" and "development" for several months in early 1997, for example, produced only the PCSD Web page and a fact sheet on the reinventing of the U.S. Agency for International Development.

63. AGENDA 21, *supra* note 1, para. 36.5(b). It also suggests that governments "strive" to do so within three years.

64. *Id.* para. 36.3; *see also Programme for the Further Implementation of Agenda 21, supra* note 3, para. 105 ("Even in countries with strong education systems, there is a need to reorient education, awareness and training to increase widespread public understanding, critical analysis, and support for sustainable development.").

65. 20 U.S.C. § 5812.

66. *Id.* § 5812(3)(A).

67. *Id.*

68. *See generally* DEBORAH SIMMONS, THE NAAEE STANDARDS PROJECT: PAPERS ON THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION STANDARDS (1995).

69. PRESIDENT'S COUNCIL ON SUSTAINABLE DEV., EDUCATION FOR SUSTAINABILITY: AN AGENDA FOR ACTION 12 (1996) [hereinafter EDUCATION FOR SUSTAINABILITY] The PCSD also recommended improving education for sustainability, so that all students understand the relationships among environmental, economic, and social issues. SUSTAINABLE AMERICA, *supra* note 37, at 74.

70. EDUCATION FOR SUSTAINABILITY, *supra* note 69, at 5.

71. 35 PA. CONS. STAT. ANN. §§ 7522, 7523(1) (West 1996); 22 PA. CODE § 5.202(f)(4) (1996).

72. *Programme for the Further Implementation of Agenda 21, supra* note 3, para. 49.

73. SUSTAINABLE AMERICA, *supra* note 37, at 5, 168 n.8.

74. AGENDA 21, *supra* note 1, para. 4.3.

75. BUREAU OF THE CENSUS, U.S. DEPT OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES: 1996, tbl. 914 (116th ed. 1996) [hereinafter BUREAU OF THE CENSUS].

76. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), IPCC SECOND ASSESSMENT SYNTHESIS OF SCIENTIFIC-TECHNICAL INFORMATION RELEVANT TO INTERPRETING ARTICLE 2 OF THE U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (1995) para. 2.4 (1995) <http://www.unfccc.de/fccc/science/syntrep.htm> [hereinafter IPCC].

77. *Id.* para. 2.4.

78. *Id.* para. 2.7.

79. U.S. EPA, EMERGING GLOBAL ENVIRONMENTAL ISSUES 3 (1997).

80. *See, e.g.,* BUSINESS COUNCIL FOR SUSTAINABLE DEV., GETTING ECO-EFFICIENT 10 (1993) (the Business Council for Sustainable Development is now known as the World Business Council for Sustainable Development); ERNST VON WEIZSACKER ET AL., FACTOR FOUR (1997) [hereinafter FACTOR FOUR]. *See also Programme for the Further Implementation of Agenda 21, supra* note 3, para. 28(f) ("Attention should be given to studies that propose to improve the efficiency of resource use, including consideration of a tenfold improvement in

resource productivity in industrialized countries in the long term and a possible factor-four increase in industrialized countries in the next two or three decades.").

81. AGENDA 21, *supra* note 1, para. 4.8(b).

82. *Id.* para. 4.17.

83. *Id.* para. 4.18(d).

84. Thomas A. Starrs, *Solar, Wind and Geothermal Energy*, in ENVIRONMENTAL LAW—FROM RESOURCES TO RECOVERY § 11.2(B)(1)(c) (Celia Campbell-Mohn et al. eds., 1993) (describing the ending, in 1993, of nonbusiness tax credit benefits for investment in solar energy); *see also* Chris Bright, *Tracking the Ecology of Climate Change*, in STATE OF THE WORLD 1997, at 92-93 (Lester R. Brown et al. eds., 1997) (describing reduction in federal funding for research).

85. BUREAU OF THE CENSUS, *supra* note 75, tbl. 913 (calculation from table).

86. *Id.* tbl. 951.

87. FRAMEWORK CONVENTION ON CLIMATE CHANGE, *supra* note 9, art. 2.

88. *Id.* art. 4.2(b).

89. AGENDA 21, *supra* note 1, paras. 9.9-9.21. Governments are not legally obliged to implement these measures to fulfill their treaty commitments, however. *Id.* para. 9.2.

90. *See, e.g.*, Ann Devroy & Eric Pianin, *Clinton Yields on Energy Tax: President Drops 'Btu' Levy, Asks Senators for Alternative*, WASH. POST, June 9, 1993, at A1; David S. Hilzenrath, *Miscalculations, Lobby Effort Doomed Btu Tax Plan*, WASH. POST, June 11, 1993, at D1. The President settled instead for a 4.3 cents-per-gallon gas tax increase. Eric Pianin & Davis S. Hilzenrath, *Negotiators Wrap Up Anti-Deficit Package*, WASH. POST, Aug. 3, 1993, at A1.

91. WILLIAM J. CLINTON & ALBERT GORE JR., THE CLIMATE CHANGE ACTION PLAN (CCAP) (1993).

92. *Id.* at 28.

93. U.S. DEPT OF STATE, SECOND U.S. NATIONAL COMMUNICATION SUBMITTED UNDER THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE ch. 1, pp. 9-10 (draft 1997) (chapters are numbered separately).

94. *Id.* ch. 3, p. 37 (calculation from table).

95. *Id.* ch. 1, pp. 9-10.

96. *See, e.g.*, FRANCES CAIRNCROSS, COSTING THE EARTH 70-71 (1993); FACTOR FOUR, *supra* note 80, at 139-209.

97. AGENDA 21, *supra* note 1, para. 33.13.

98. *Id.*

99. Organization for Econ. Cooperation & Dev., *Financial Flows to Developing Countries in 1995; Sharp Decline in Official Aid; Private Flows Rise* (visited July 13, 1997) <http://www.oecd.org/dac/-htm/opod-doc.htm>.

100. *Programme for the Further Implementation of Agenda 21*, *supra* note 3, para. 18.

101. Organization for Econ. Cooperation & Dev., *supra* note 99.

[102.](#) U.S. AGENCY FOR INT'L DEV. (visited July 13, 1997) <http://www.info.usaid.gov/eesi/text/over/over5.html>.

[103.](#) WORLD BANK, PRIVATE CAPITAL FLOWS TO DEVELOPING COUNTRIES 9-10 (1997); Hilary F. French, *Pay for Development*, WORLD WATCH, May 1997, at 9.

[104.](#) WORLD BANK, *supra* note 103, at 11; French, *supra* note 103.

[105.](#) U.S. Statement for the Record on the UNCED Agreements, *supra* note 27.

[106.](#) AGENDA 21, *supra* note 1, para. 33.13.

[107.](#) *Id.*

[108.](#) GEORGE BUSH, U.S. ACTIONS FOR A BETTER ENVIRONMENT: A SUSTAINED COMMITMENT at i (1992). At the Rio-plus-five meeting in New York, the Clinton Administration distributed a six-page report reflecting a similar view. PROGRESS SINCE RIO: THE CLINTON/GORE RECORD (1997).

[109.](#) UNEP Doc. IG.53/5, *reprinted in* 26 I.L.M. 1529 (1987).

[110.](#) *See generally* SHARON L. ROAN, OZONE CRISIS: THE 15 YEAR EVOLUTION OF A SUDDEN GLOBAL EMERGENCY (1989).

[111.](#) Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550 (entered into force Jan. 1, 1989).

[112.](#) London Amendments to the Montreal Protocol on Substances That Deplete the Ozone Layer, June 29, 1990, UNEP/Oz.L.Pro.2/3 (annex II).

[113.](#) Omnibus Budget Reconciliation Act of 1989, Pub. L. No. 101-239, § 7506, 103 Stat. 2106, 2364-69; Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, § 11203, 104 Stat. 1388, 1388-421 to -423.

[114.](#) 42 U.S.C. §§ 7401-7671q, ELR STAT. CAA §§ 101-618.

[115.](#) *Id.* §§ 7671-7671q, ELR STAT. CAA §§ 601-618.

[116.](#) Elizabeth Cook, *Overview*, in OZONE PROTECTION IN THE UNITED STATES: ELEMENTS OF SUCCESS 1 (Elizabeth Cook ed., 1996).

[117.](#) J. Andrew Hoerner, *Taxing Pollution*, in OZONE PROTECTION IN THE UNITED STATES: ELEMENTS OF SUCCESS 44-49 (1996).

[118.](#) *See, e.g.*, AGENDA 21, *supra* note 1, paras. 18.40(A)-(B).

[119.](#) 33 U.S.C. §§ 1251-1387, ELR STAT. FWPCA §§ 101-607.

[120.](#) AGENDA 21, *supra* note 1, para. 20.20.

[121.](#) 42 U.S.C. §§ 6901-6992k, ELR STAT. RCRA §§ 1001-11012.

[122.](#) *Id.* § 6902(a)(4), ELR STAT. RCRA § 1003(a)(4).

[123.](#) *Id.* §§ 6921-6939e, ELR STAT. RCRA §§ 3001-3023; 40 C.F.R. pts. 260-68 (1996).

[124.](#) U.S. EPA, THE NATION'S HAZARDOUS WASTE MANAGEMENT PROGRAM AT A CROSSROADS: THE RCRA IMPLEMENTATION STUDY 1 (1990).

[125.](#) AGENDA 21, *supra* note 1, paras. 14.44 & 14.46.

[126.](#) 49 Stat. 164 (1935) (codified as amended with partial repeals at 16 U.S.C. §§ 590a-590q).

[127.](#) Food Security Act of 1985, Pub. L. No. 99-198, 99 Stat. 1354 (codified as amended in scattered sections of 7 U.S.C. and 16 U.S.C.).

[128.](#) 16 U.S.C. § 3811.

[129.](#) Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101-624, 104 Stat. 3359 (codified as amended in scattered sections of 7 U.S.C. and 16 U.S.C.).

[130.](#) Federal Agriculture Improvement and Reform Act of 1996, Pub. L. No. 104-127, 110 Stat. 888 (codified as amended in scattered sections of 7 U.S.C. and 16 U.S.C.).

[131.](#) NATURAL RESOURCE CONSERVATION SERV., U.S. DEP'T OF AGRIC., IN PARTNERSHIP WITH PEOPLE AND A HEALTHY LAND 6 (1995).

[132.](#) *Id.*

[133.](#) AGENDA 21, *supra* note 1, ch. 14.75.

[134.](#) *Id.* para. 14.77(b).

[135.](#) Edward H. Glass, *Constraints to the Implementation and Adoption of IPM*, in FOOD, CROP PESTS, AND THE ENVIRONMENT: THE NEED AND POTENTIAL FOR BIOLOGICALLY INTENSIVE INTEGRATED PEST MANAGEMENT 167, 167 (Frank G. Zalom et al. eds., 1992).

[136.](#) Charles M. Benbrook, *Pest Management at the Crossroads: USDA Integrated Pest Management Seminar Series Feb. 28, 1997*, U.S. DEP'T OF AGRIC. 4 (visited July 13, 1997) <http://www.pmac.net/ipmatalk.htm>.

[137.](#) 7 U.S.C. §§ 136-136y (1947).

[138.](#) See Edwin G. Rajotte, *From Profitability to Food Safety and the Environment: Shifting the Objective of IPM*, 77 PLANT DISEASE 296, 298 (1993); WESTERN CROP PROTECTION ASS'N, IPM—THE QUIET EVOLUTION: AN OVERVIEW OF INTEGRATED PEST MANAGEMENT (IPM) AND ITS IMPACT ON WESTERN AGRICULTURE 10-11 (1996).

[139.](#) Food Quality and Protection Act, Pub. L. No. 104-170, 110 Stat. 1490 (codified at 7 U.S.C. §§ 136-136y).

[140.](#) 7 U.S.C. § 136r-1.

[141.](#) Barry Jacobsen, *USDA Integrated Pest Management (IPM) Initiative* (visited Feb. 26, 1997) <http://www.ent.agri.umn.edu/academics/classes/ipm/chapters/jacobsen.htm>.

[142.](#) AGENDA 21, *supra* note 1, para. 10.5.

[143.](#) *Id.* para. 10.3.

[144.](#) *Id.* para. 10.1.

[145.](#) *Id.*

[146.](#) Loring LaB. Schwarz, *Preface* to CHARLES A. FLINK & ROBERT M. SEARNS, GREENWAYS at xv (Loring LaB. Schwarz ed., 1993) (defining greenway as a "generic term for a wide variety of linear open spaces that provide connections and thereby foster movement of some sort...").

[147.](#) Willamette River Greenway Act, OR. REV. STAT. § 390.310-.368 (1994).

148. John M. DeGrove, *Coping With Regional Problems in the Age of the Devolution Revolution*, in 1 LAND USE INSTITUTE: PLANNING, REGULATION, LITIGATION, EMINENT DOMAIN, AND COMPENSATION 107, 108-13 (ALI-ABA Course of Study Materials 1996).

149. The Conservation Fund, *American Greenways: Creating Conservation Connections* (Maryland Greenways Program file) (visited Mar. 26, 1997) <http://www.conservationfund.org:80/conservation/amgreen/index.html>.

150. THOMAS HYLTON, SAVE OUR LAND, SAVE OUR TOWNS: A PLAN FOR PENNSYLVANIA 16 (1995).

151. AGENDA 21, *supra* note 1, para. 11.3.

152. FOREST PRINCIPLES, *supra* note 11, para. 6(c).

153. 16 U.S.C. §§ 528-531.

154. *Id.* §§ 1600-1614, ELR STAT. NFMA §§ 2-16.

155. *Id.* § 1604, ELR STAT. NFMA § 6.

156. Gregory H. Aplet et al., *Prospects for a Sustainable Future*, in DEFINING SUSTAINABLE FORESTRY 309 (Gregory H. Aplet et al. eds., 1993) (referring to Memorandum from Dale Robertson, Chief, U.S. Forest Service, to Regional Foresters and Station Directors (June 4, 1992)).

157. Hal Salwasser et al., *An Ecosystem Perspective on Sustainable Forestry and New Directions for the U.S. National Forest System*, in DEFINING SUSTAINABLE FORESTRY, *supra* note 156, at 74, 85 (quoting Robertson memo).

158. Deputy Chief James C. Overbay, Ecosystem Management, Address at the National Workshop on Taking an Ecological Approach to Management 322 (Apr. 27, 1992), *reprinted in Testimony Before the Subcomm. on the Interior and Related Agencies of the House Comm. on Appropriations*, 103d Cong. 322 (1992).

159. *See, e.g., Announcement by Vice President Al Gore and President Bill Clinton on White House Forest Policy*, FED. NEWS SERV. (July 1, 1993), *available in* LEXIS, News Library, ARCNWS File (announcing policy); United Nations, Earth Summit +5: Country Profile—United States ch. 11 (visited July 13, 1997) http://www.un.org/dpcsd/earthsummit/usa_cp.htm#ch10 (summarizing policy).

160. 60 Fed. Reg. 18886 (Apr. 13, 1995) (to be codified at 36 C.F.R. pt. 219).

161. 1995 Supplemental Appropriations for Disaster Assistance and Rescissions Act, Pub. L. No. 104-19, § 2001, 109 Stat. 194, 240-47.

162. *Id.* § 2001(a)(3).

163. *Id.* § 2001(j).

164. *See, e.g., Southwest Ctr. for Biological Diversity v. U.S. Forest Serv.*, 100 F.3d 1443, 1449, 27 ELR 20455, 20457 (9th Cir. 1996) (courts must defer to Forest Service under this legislation "despite substantial interagency disagreement and considerable evidence that a salvage logging project poses severe environmental risks"); *Inland Empire Public Lands Council v. Glickman*, 88 F.3d 697, 701, 26 ELR 21149, 21151 (9th Cir. 1996) (Forest Service "had discretion to disregard entirely the effect on the grizzly bear").

165. *See generally* AGENDA 21, *supra* note 1, chs. 31, 35.

166. *Id.* para. 31.1.

167. NATIONAL SCIENCE & TECH. COUNCIL, *Preface to TECHNOLOGY FOR A SUSTAINABLE FUTURE: A FRAMEWORK FOR ACTION* (1994).

168. *Id.* at 12, 56-7.

169. See NATIONAL SCIENCE & TECH. COUNCIL, BRIDGE TO A SUSTAINABLE FUTURE: NATIONAL ENVIRONMENTAL STRATEGY (1995).

170. *Id.* at i.

171. ENVIRONMENTAL TECHNOLOGIES TRADE ADVISORY COMM. (ET-TAC), ETTAC RECOMMENDATIONS REPORT 1-4 (1996) [herein-after ETTAC RECOMMENDATIONS REPORT]; *Technology Exports Show Record Growth in Three-Year Span, Commerce Report Indicates*, Daily Env't Rep. (BNA) (Oct. 22, 1996), available in LEXIS, Environment Library, BNANED File. See also SNAPSHOT OF ACTIVITIES *supra* note 35, at 29-30 (describing other federal environmental technology efforts).

172. ETTAC RECOMMENDATIONS REPORT, *supra* note 171, at 1-4. The United States exported 6 percent of its environmental technology production in 1994, compared to 24 percent for Japan and 31 percent for Germany. "In the area of export promotion, if measured by actual sales, the U.S. has performed poorly." *Id.* In addition, environmental technology ordinarily includes pollution control devices that are separate from the manufacturing process. Sustainable manufacturing involves clean production technology that does not generate pollutants in the first place. Although the use of discrete environmental technologies is important, the export of clean manufacturing technologies would represent a more significant step toward sustainability.

173. AGENDA 21, *supra* note 1, para. 7.6.

174. *Id.* para. 7.9(b).

175. See generally AGENDA 21, *supra* note 1, paras. 7.24-7.34.

176. 42 U.S.C. § 1441.

177. Cranston-Gonzalez National Affordable Housing Act (NAHA), 42 U.S.C. §§ 120701-12899i.

178. JOINT CTR. FOR HOUS. STUDIES OF HARVARD UNIV., THE STATE OF THE NATION'S HOUSING 23 (1996); National Low Income Housing Coalition, *NLIHC Background on Housing Issues* (visited Feb. 1997) <http://www.nlihc.org/#background>.

179. 42 U.S.C. § 12705(a) & (b); 24 C.F.R. § 91.1 & 91.2 (1996).

180. U.S. Dep't of Housing & Urban Dev., *Program Funding Plan for Fiscal Year 1997 (Part I) (Funding Overview)* (visited Aug. 18, 1997) <http://www.hud.gov/pih/publications/97fap/forewrd.html>.

181. AGENDA 21, *supra* note 1, paras. 6.21, 6.26.

182. *Id.* para. 6.23.

183. *Universal Access to Health Care*, 108 HARV. L. REV. 1323, 1326 (1995).

184. Year 2000 Health Objective Planning Act, Pub. L. No. 101-582, 104 Stat. 2867 (1990) (amending 42 U.S.C. § 246).

185. Gopal K. Singh et al., *Advanced Report of Final Mortality Statistics, 1994*, MONTHLY VITAL STATISTICS REP., Sept. 30, 1996, at 9; BUREAU OF THE CENSUS, *supra* note 75, tbl. 90.

186. NAT'L CTR. FOR HEALTH STATISTICS, DEP'T OF HEALTH & HUMAN SERVS., HEALTHY PEOPLE 2000 MIDCOURSE REVIEW AND 1995 REVISIONS 94 (1995).

187. *Id.* at 10.

188. U.S. Census Bureau, *Health Insurance Coverage* (visited June 15, 1997) <http://www.census.gov/ftp/pub/hhes/hlthins/cover95/c95tabb.html>.

189. FAMILIES USA FOUND., ONE OUT OF THREE: KIDS WITHOUT HEALTH INSURANCE 1995-1996 (1997); Paul Starr, *Look Who's Talking Health Care Reform Now*, N.Y. TIMES, Sept. 3, 1995, § 6 (Magazine), at 42.

190. AGENDA 21, *supra* note 1, para. 3.4(a).

191. *Id.* para. 3.4(b).

192. *Id.* para. 3.2.

193. BUREAU OF THE CENSUS, *supra* note 75, tbl. 730.

194. Daniel H. Weinberg, *Press Briefing on 1995 Income, Poverty, and Health Insurance Estimates* (Sept. 26, 1996) (visited July 18, 1997) <http://www.census.gov/Press-Release/speech1.html>.

195. *Id.*; BUREAU OF THE CENSUS, *supra* note 75, tbl. 731.

196. Personal Responsibilities and Work Opportunity Reconciliation Act, Pub. L. No. 104-93, 110 Stat. 2105 (codified in scattered sections of U.S.C.).

197. The PCSD, as presently constituted, thus cannot be that entity. In fact, the PCSD has recommended that the President "assign clear responsibility for sustainable development to an entity within the White House." SNAPSHOT OF ACTIVITIES, *supra* note 35, at 54. In addition, the entity should be run by an individual with significant experience and expertise—and no other major responsibilities. The job is simply too complex and demanding, and requires too broad a perspective, to be assigned primarily to individuals who have other assignments or who work in particular agencies. The Interagency Working Group on Sustainable Development is therefore not a substitute for this entity.

198. 42 U.S.C. §§ 4321-4347, ELR STAT. NEPA §§ 2-209.

199. *Id.* § 4331(a), ELR STAT. NEPA § 101(a).

200. James McElfish, *Back to the Future*, ENVTL. F., Sept./Oct. 1995, at 14. This article was required reading in the seminar.

201. 42 U.S.C. § 4333, ELR STAT. NEPA § 103.

202. *See generally* AL GORE, CREATING A GOVERNMENT THAT WORKS BETTER AND COSTS LESS (1993).

203. Pub. L. No. 103-62, 107 Stat. 285 (1993) (codified in various sections of U.S.C.).

204. 31 U.S.C. § 1115(a).

205. Five task force reports have been separately published. *See generally* PCSD, TASK FORCE REPORT ON PUBLIC LINKAGE, DIALOGUE, AND EDUCATION (1997); PCSD, TASK FORCE REPORT ON ENERGY AND TRANSPORTATION (1996); PCSD, TASK FORCE REPORT ON POPULATION AND CONSUMPTION (1996); PCSD, TASK FORCE REPORT ON ECO-EFFICIENCY (1996); PCSD, TASK FORCE REPORT ON SUSTAINABLE AGRICULTURE (1996). Three shorter task force reports are published in BUILDING ON CONSENSUS. *See supra* note 49, at 4-40. These concern innovative local, state, and regional approaches; new national opportunities; and international leadership.

206. SUSTAINABLE AMERICA, *supra* note 37, at 67.

207. *Clinton on the Global Environment: Some Progress but Much More Still to Be Done*, N.Y. TIMES, June 27,

1997, at A11 (transcript of President's address) [hereinafter *Clinton on the Global Environment*]. The conference of the parties for the Climate Convention is the governing body for that treaty and its commitments. The conference, which is made up of the countries who are parties to the treaty, will hold its next meeting at the end of 1997 in Kyoto, Japan. The parties will decide at that meeting whether to adopt a protocol for binding numerical goals for greenhouse gas reduction.

[208.](#) See, e.g., SUSTAINABLE AMERICA, *supra* note 37 (citing U.S. examples throughout).

[209.](#) GIFFORD PINCHOT, *BREAKING NEW GROUND* 324 (1947).

[210.](#) *Id.*

[211.](#) 60 Fed. Reg. 18886 (Apr. 13, 1995) (to be codified at 36 C.F.R. pt. 219).

[212.](#) *Clinton on the Global Environment*, *supra* note 207.

[213.](#) *Id.*

[214.](#) SUSTAINABLE AMERICA, *supra* note 37, at 47.

[215.](#) *Id.* at 46.

[216.](#) PCSD, TASK FORCE REPORT ON POPULATION AND CONSUMPTION, *supra* note 205, at 41.

[217.](#) Tux Turkel, *Mainers Feel Pinch as Freon Grows Precious[,]* Suppliers Scramble to Find the Refrigerant Banned to Protect the Ozone Layer, and Consumers Gasp at the Prices, PORTLAND PRESS HERALD, Aug. 5, 1996, at 1A.

[218.](#) *Ozone Depletion: For Russia Could Help Curtail CFC Smuggling*, Chemical Reg. Rep. (BNA) (June 13, 1997), available in LEXIS, Environment Library, BNACRD File.

[219.](#) AGENDA 21, *supra* note 1, paras. 20.6, 20.11(a).

[220.](#) 42 U.S.C. § 6902(b), ELR STAT. RCRA § 1003.

[221.](#) *Id.* § 6922(b)(1). ELR STAT. RCRA § 3002(b)(1).

[222.](#) ORGANIZATION FOR ECON. COOPERATION & DEV., *supra* note 6, at 89.

[223.](#) See, e.g., 42 U.S.C. § 6903(5) & (27), ELR STAT. RCRA § 1004(5) & (27); John C. Dernbach, *The Unfocused Regulation of Toxic and Hazardous Waste*, 21 HARV. ENVTL. L. REV. 1, 16-17, 55-61 (1997).

[224.](#) JEFFREY M. GABA & DONALD W. STEVER, LAW OF SOLID WASTE, POLLUTION PREVENTION AND RECYCLING § 11.04 (1993).

[225.](#) NETHERLANDS MINISTRY OF HOUSING, SPATIAL PLANNING AND THE ENVIRONMENT, THE NETHERLANDS' NATIONAL ENVIRONMENTAL POLICY PLAN 2, AT 18, 92-94 (1994).

[226.](#) Reforms are likely to work better if other statutes are also included. Thus, a pollution prevention program based on chemicals that are regulated as toxic or hazardous in multiple media would achieve significant reductions in those pollutants, prevent cross-media transfers to unregulated media, and potentially save money that would otherwise be expended on end-of-pipe controls. See Dernbach, *supra* note 223, at 66-76.

[227.](#) AGENDA 21, *supra* note 1, paras. 18.36, 18.38. At the Rio-plus-five meeting, the General Assembly called on countries to give a high priority to integrated watershed management. *Programme for the Further Implementation of Agenda 21*, *supra* note 3, para. 34(a). For a comprehensive analysis of this issue, see Robert W. Adler, *Addressing Barriers to Watershed Protection*, 25 ENVTL. L. 973 (1995).

[228.](#) AGENDA 21, *supra* note 1, para. 18.40(B)(v) & (vi).

[229.](#) 33 U.S.C. §§ 1311, 1313, 1314, ELR STAT. FWPCA §§ 301, 303, 304.

[230.](#) See generally Robert R. Kuehn, *The Environmental Justice Implications of Quantitative Risk Assessment*, 1996 U. ILL. L. REV. 103 (conventional risk assessment results in the imposition of undue pollution burdens on the poor and people of color).

[231.](#) Florida Keys Marine Sanctuary Proposed Regulations, 60 Fed. Reg. 16399, 16401-02 (Mar. 30, 1995); R.E. Johannes, *Pollution and Degradation of Coral Reef Communities*, in TROPICAL MARINE POLLUTION 13-14 (E.J. Ferguson Wood & R.E. Johannes eds., 1975).

[232.](#) Pub. L. No. 101-605, 104 Stat. 3089 (codified as amended in scattered sections of 26 U.S.C.).

[233.](#) Florida Keys Marine Sanctuary Final Regulations, 62 Fed. Reg. 4578 (Jan. 30, 1997), *modified*, 62 Fed. Reg. 32154 (June 12, 1997) (to be codified at 15 C.F.R. pts. 922, 929, 937).

[234.](#) Bryan T. Downes, *Toward Sustainable Communities: Lessons From the Canadian Experience*, 31 WILLAMETTE L. REV. 359, 370-72 (1995).

[235.](#) After the June 1997 General Assembly meeting, and thus after the five-year review period in this Dialogue, Congress passed legislation as part of an agreement with President Clinton that could provide health insurance coverage for up to five million uninsured children. Alison Mitchell, *The Budget Deal: The Overview; Clinton and GOP Cheer Plan to Balance Budget*, N.Y. TIMES, July 30, 1997, at A1.

[236.](#) Martin S. Johncox, *Development Idea Gains Steam*, IDAHO STATESMAN, Jan. 8, 1997, at 1B.

[237.](#) Florence Wagman Roisman, *Sustainable Development in Suburbs and Their Cities: The Environmental and Financial Imperatives of Racial, Ethnic and Economic Inclusion*, WIDENER L. SYMP. J. (forthcoming, Fall/Winter 1997).

[238.](#) BUREAU OF THE CENSUS, *supra* note 75, tbl. 707.

[239.](#) BUILDING ON CONSENSUS, *supra* note 49, at 53.