Sovereignty, Federalism, and the Identification of Local Environmental Problems

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Terry Anderson and Bishop Grewell have recently argued that misplaced concerns about international environmental degradation have adverse effects on US foreign policy and US interests. Trade suffers and economic growth falters, thereby reducing resources available for environmental protection. Sovereignty and accountability are both compromised. To avert these problems, they recommend a variety of policy changes including promotion of economic growth, curtailment of environmentally destructive policies, and support for sovereign states that are respectful of property rights and the rule of law.

One of their recommendations in particular merits more attention. Anderson and Grewell write, “If an environmental problem can be handled internally, there is no need for international regulations that encourage encroachment on sovereign powers and discourage democratic accountability.” The strength of this recommendation depends on what is meant by “handled internally.” Given the trend toward making more and more environmental problems international, it would be useful to have a test to identify those problems that can be handled internally. Such a test could provide a principled means to identify environmental problems best left to local authorities. International bodies or sovereign states could pledge to pursue agreements on only those environmental problems that are truly international in scope.

In this article, I elaborate on the Anderson and Grewell recommendation by arguing for a test to identify which environmental problems can be handled internally and for a commitment to focus foreign policy on international, not local, environmental problems. I first illustrate how international environmental regulations can cause harm by exploring how the Basel Convention stopped the export of scrap

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ships to south Asia. I then review how federal environmental policies in the United States are imposed as solutions for all manner of local environmental problems and point out that a trend towards centralized environmental policymaking at the international level is likely because the causes of centralized decisionmaking within the United States also exist at an international level. I then outline an economically sound approach to identify environmental problems that can be handled internally and develop a practical definition of such problems. Finally, I make recommendations that might help focus international organizations' involvement in environmental policy development only where local solutions are inappropriate.

I. THE PROBLEM: ENVIRONMENTALISM AND TRADE

The problem of environmentalism as a threat to sovereignty is often quite abstract. Authors describe the problem in terms of reduced democratic accountability and amorphous reductions to trade and economic growth. One instructive example that may help to clarify the nature of the problem involves the Basel Convention on disposal of hazardous materials. This treaty and its administration by the United States have scuttled some valuable US exports to other countries and thus reduced welfare in the United States and abroad.

The Basel Convention restricts the export for disposal of materials deemed hazardous, including a class of persistent organic carcinogenic pollutants called polychlorinated biphenyls ("PCBs"). Electrical equipment manufacturers used PCBs in liquid form in large quantities for decades both in the United States and abroad. In 1976 Congress gave the Environmental Protection Agency ("EPA") authority to regulate the production, use, and sale of PCBs after reports that they accumulated in fish tissue and hindered reproduction of piscivorous birds. PCBs were subsequently found in the insulation protecting electrical equipment on older ships. The EPA and the scientific community generally have not presented evidence that PCBs occurring in solids in low concentration pose a significant risk. But the Basel Convention, at least as the EPA interpreted it, treated these PCBs like the genuinely hazardous, liquid PCBs.

4. PCBs are specifically mentioned in Annex VIII (A1180 and A3180) and Annex IX (B1040 and B1110); see United Nations Environment Programme, Official Web Site of the Secretariat of the Basel Convention, available online at <http://www.basel.int> (visited Sept 30, 2001).
6. For further discussion, see the preamble of US Environmental Protection Agency, Disposal of Polychlorinated Biphenyls (PCBs); Final Rule, 63 Fed Reg 35384, 35411 (1998).
In 1994, the EPA proposed a rule designed to control transboundary movement of PCB waste in a manner consistent with the Basel Convention. It would allow export for disposal of PCB waste at concentrations of 50 ppm or greater on a case-by-case basis unless EPA has reason to believe that the PCBs in question will not be properly managed, where the receiving country has an international agreement consistent with the international obligations of the United States . . . [Additionally,] the receiving country certifies to EPA that it has received accurate and complete information about the waste, consents to receive it, and has adequate disposal facilities to assure proper management, and the exporter identifies waste containing liquid PCBs or PCB-containing electrical equipment.

EPA also acknowledged that PCBs were present in parts integral to ships that might be exported for scrap.

Many ships owned by the US Maritime Administration ("MARAD") were presumed to have PCBs present. Congress had charged MARAD to dispose of its ships expeditiously and to get the maximum value for US taxpayers. These ships could not be sold for scrap in the United States, because concerns over liability associated with PCBs and other contaminants such as lead-based paint discouraged potential buyers. Yet the risks from PCBs were negligible because they were incorporated into wire cable or gaskets.

Between 1987 and 1994, MARAD exported 128 vessels to China, India, Mexico, and Taiwan (of 130 vessels sold, total). In 1998, MARAD, having sold no vessels for overseas scrapping since the release of EPA's proposed rule in 1994, officially suspended sales of vessels for overseas scrapping. Later that year, the Clinton administration placed a moratorium on overseas scrapping and required MARAD to request approval from the EPA to sell vessels overseas to markets that are capable of scrapping in an environmentally compliant manner. In 2000, MARAD's inventory, which is still anchored in US waters, numbered 110 ships, at least 40 of which were in particularly bad condition. In addition, the Navy had over 100 obsolete ships waiting to be scrapped.

Inhibiting the trade in these ships has left both the United States and potential trading partners worse off. The US Treasury, and by inference the US taxpayer, has lost the value of the ships. Salvage and recycling businesses and workers have lost a profitable opportunity to convert a large quantity of high quality steel to industrial

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8. Id at 62817.
11. See id.
and commercial use. Although the environmental risks from PCBs incorporated into solids are minimal, the ships continue to leak minute quantities of contaminants in US waters, while other sources of pollution in these waters are subject to costly controls. In addition, the PCB related risks to salvage workers are trivial when compared with the very large and real risks to health and safety associated with poverty. Thus, US exports of these ships would promote welfare at home and abroad.

This example shows how an international treaty intended to address global environmental problems, when coupled with overly stringent compliance efforts in the United States, can lower overall welfare by limiting beneficial international trade.

II. FEDERALISM IN US ENVIRONMENTAL POLICY

The extensive US experience with environmental policy and federalism may provide insights about sovereignty in international environmental affairs. The lack of respect for sovereignty outlined above is mirrored by a paternalism that the US federal government often shows toward state and local governments. Three examples demonstrate the lack of genuine federalism in the United States.

The case of arsenic in drinking water illustrates well how the US federal government has assumed responsibility for environmental risks that are entirely local. Although the Bush Administration has announced that it is seeking to issue an arsenic standard less stringent than the one promulgated by the EPA at the end of the Clinton Administration, it has not questioned the need for a single mandatory uniform national standard. But in our federal system of government such a standard makes little sense.

Contaminants in drinking water, unlike pollutants in the air or in lakes and streams, do not cross state boundaries. Arsenic in drinking water differs from other forms of pollution because no profit motive pushes entrepreneurs to peddle contaminated water. Utilities controlled by local governments supply the vast majority of US tap water. At the low levels found naturally in groundwater in the United States, arsenic poses risks only to people exposed for many years. These people are residents of local communities who have concerns about both health and


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Local governments’ decisions about tap water purity are likely to be sensible because tap water consumers are adequately informed about possible health risks. They already receive federally mandated reports about contaminants found in drinking water and the associated risks to health. Americans already trust local governments with many important decisions affecting health and safety. Local governments provide police protection, fight fires, and regulate ambulance services. Deciding how pure to make tap water is not qualitatively different from these risk management decisions.

The federal government has the scientific expertise to assess risks better than local governments. Using this expertise, it should establish recommended drinking water standards. But federal mandates that local governments act and pay the bill are simply paternalistic.

A second example of federal regulation of local environmental problems pertains to toxic waste. The federal program regulating toxic waste sites is the Superfund program, which the EPA administers under the Comprehensive Environmental Response, Compensation, and Liability Act. Risks from such wastes are local, essentially because the key route of exposure is consumption of dirt or of contaminated groundwater and groundwater moves slowly. The costs of controlling wastes may be borne locally or nationally depending on whether the responsible parties are local. Thus local authorities have adequate incentives to regulate. Yet ever since various toxins were found in Love Canal, Congress and the EPA have developed and used the Superfund program to make a federal case out of this local problem.

Moreover, the federal regulations have been too stringent to be efficient. Hamilton and Viscusi recently concluded a monumental review of the Superfund program including an assessment of the costs of reduced cancer risks posed by all identified carcinogens and all identified exposure pathways at certain sites. Hamilton

15. For a list of information that must be presented in these federally mandated reports, see US Environmental Protection Agency, Final Consumer Confidence Report Rule Requires Annual Water Quality Reports, available online at <https://www.epa.gov/safewater/ccr/ccrfact.html> (visited Sept 30, 2001).
18. For further discussion, see Jerry Taylor, Salting the Earth: The Case for Repealing Superfund, 18 Regulation 55 (1995).
and Viscusi reported that 141 of 145 sites studied had a cost per cancer case averted of more than $100 million.\textsuperscript{19} This estimate is likely to be too low because it uses cancer risk assessment methods that are deliberately conservative.\textsuperscript{20} Even at face value, however, Hamilton and Viscusi's estimate is vastly greater than estimates of consumers' willingness to pay to reduce statistical cancer risks.\textsuperscript{21} In addition, Lutter and Mader show that lead, the most prevalent chemical associated with non-cancer risks, is regulated more stringently in Superfund sites than in people's backyards, and that the stringent standards for lead clean-up at Superfund sites are quite unlikely to pass a cost-benefit test.\textsuperscript{22}

A final example of federal regulation of local environmental problems is municipal solid waste disposal. Under Subpart D, EPA has promulgated regulations dictating the design and construction of municipal waste disposal.\textsuperscript{23} As with drinking water, there is no profit motive driving municipalities to make money by managing dumps in a way that imposes unreasonable health risks on local residents. Yet Federal standards require that municipalities comply with a uniform numeric national standard.

Of course not all environmental problems are so local in scope. Many regional air or water pollution problems call for federal rather than local action. But the overall tendency of US environmental policy is for Washington to monopolize decisionmaking and reserve or delegate only relatively unimportant details to states and localities.

III. REASONS FOR CENTRALIZED ENVIRONMENTAL DECISIONMAKING

Identifying the causes of centralized environmental policymaking in the United States is important to the extent that the development of environmental policy in the United States has predictive value for the development of international environmental policy.

There are substantial public misperceptions about the nature of most environmental risks. Popular media accounts pay insufficient attention to the severity and likelihood of risks to health. Too often, advocates (and even scientists) describe a


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particular threat in terms that help make the case that stringent control action is needed. Thus arsenic is tagged a carcinogen without a description of the relatively low risks resulting from exposure in the relevant range. Similarly, mercury is identified as harming 60,000 children per year, without regard to the severity of the harm. Asbestos fears result in school closings even though the risks are trivially small and less than the risks to children of playing elsewhere while the asbestos is removed.

These misperceptions stem from the complicated nature of most environmental risks and costs to private parties of acquiring more information about the topics in question. For instance, the finding that diethylene-trichloromethane is carcinogenic makes the headlines. The risk may be negligible because the dose is virtually nil and the dose, after all, makes the poison. But this observation never displaces the headline that it causes cancer.

Second, public misunderstanding about small environmental risks prompts promises or action from politicians who need to be responsive to voters. As a result, many politicians support banning pesticides or fighting air pollution irrespective of cost or feasibility. The more reasoned response—that pesticides make fruits and vegetables affordable, thereby improving health, or that health risks from the air pollution in question are very small compared with relevant measures of cost—is lost in the clamor. Uncertainty about the magnitude of environmental risks makes it very difficult for politicians to withstand the desire to fight the plague du jour.

Third, regulatory costs tend to be a distant concern to most Washington policymakers. Although federal spending has obvious implications for the federal budget, regulatory costs are off the federal books, often incurred only several years in the future, and can be controlled through judicious use of enforcement discretion. Typically, some private companies will support stringent regulation because it provides a strategic comparative advantage. Such support counterbalances concerns expressed by other industry representatives that the costs are onerous and

24. For an explanation by 'climate scientist' Stephen Schneider, see Jonathan Schell, Our Fragile Earth, Discover 44 (Oct 1989) (“Scientists have to offer up scary scenarios, make simplified, dramatic statements, and make little mention of any doubts we might have. . . . Each of us has to decide what the right balance is between being effective and being honest.”).


27. See US Congress, Office of Technology Assessment, Risk to Students in Schools 197 (1995); see also Daniel Goleman, Hidden Rules Often Distort Ideas of Risk, NY Times C1 (Feb 1, 1994).

burdensome. As a result regulatory costs rarely get the same attention in Washington policy circles as, for example, federal spending or taxes.

What policy reforms might limit such extensive influence of federal regulations into areas of essentially local concern? Executive orders to respect federalism in rulemaking and laws about unfunded mandates have generally had little effect. One model that merits further attention is that of an “independent” scorekeeper. In the United States, Congress has granted a measure of independence to institutions that have served such a role. First is the Congressional Budget Office (“CBO”), which has authority to assess budgetary implications of proposed changes in law. This authority, in part because of the deft way CBO has used it, has been sufficient to deter Congress from adopting some prominent laws such as President Clinton’s 1993 health care reform proposal. The Energy Information Agency (“EIA”), a quasi-independent arm of the Department of Energy, has sometimes offered its own estimates of the costs of specific proposals. In its review of the Kyoto Protocol, EIA developed cost estimates much higher than those of the Administration and so served to diminish substantially any support in Congress for that agreement. Finally, Congress last year enacted the Truth in Regulating Act, which charges the General Accounting Office with reviewing economically significant regulations.30

In principle, an independent office could be charged with identifying the local nature of environmental problems so as to clarify the merit of action by federal, as opposed to local, authorities. The US experience with federalism in addressing environmental problems thus supports the potential value of guidelines to help distinguish local environmental problems from ones that are national (or international) in scope.

IV. IDENTIFYING GENUINE INTERNATIONAL ENVIRONMENTAL PROBLEMS: TOWARDS A USEFUL TEST

Is there a test to distinguish such local environmental problems from others, such as global warming, which cannot be efficiently controlled by purely local actions? Many such problems involve border disputes that historically were resolved by peaceful negotiations between affected countries. Large-scale problems involving many different countries are a new phenomenon. For example, the Montreal Protocol, the Kyoto Protocol, and other treaties involve all countries, even those that do not engage in the economic activity that creates the risks. These large-scale problems are international rather than simply transboundary.31

31. See Anderson and Grewell, 2 Chi J Intl L at 437-38 (cited in note 1).
Within the field of environmental economics, the identification of international environmental problems is a manageable situation. The first step is whether international effects exist as a matter of physical science. Does the pollutant in question cross borders in the way that sulfur dioxide emitted from power plants in the Ohio River Valley crosses the US-Canadian border into Ontario or measurable radiation from Chernobyl crossed from Ukraine into other eastern European countries? Even if the pollutant in question does not cross borders, there may still be international effects as occurs, for example, with pollution effects on migratory species like monarch butterflies or certain songbirds.

The second step in identifying international problems relates to their policy significance. Are the effects of international pollution large enough to merit a policy response of some sort? For example, emissions of a carcinogenic air pollutant that increase the lifetime risk of cancer by $10^{-7}$ do not have any policy relevance. This conclusion holds regardless of whether the source of the pollution is down the street or on the other side of the globe. The policy implications would be different, however, if the lifetime cancer risk were one in a hundred. If pollution caused such risks, one would expect governments, at least those in industrialized countries, to respond with a “command and control” policy. In this sense the international effects are relevant to policymakers although they may originate from a source beyond their control.

The third step in the identification of international effects that merit a coordinated international response is an assessment of the plausibility of Coasian solutions. Coase argued that in the presence of well-defined property rights, private parties are capable of negotiating solutions to problems of inefficiency (a caveat, of course, involves transaction costs). Border disputes involving two or three countries that disagree over the use of scarce water resources may plausibly be resolved by negotiations among the interested parties. But for problems involving many countries, higher transaction costs can forestall reasonably efficient outcomes without framework agreements.

Environmental problems thus merit a coordinated international response if they have measurable cross-border effects, if these are large enough to have some policy significance, and if the problems are unlikely to be remedied by Coasian solutions negotiated by neighboring countries. Such a guideline may clarify the appropriate level of government to address different environmental problems.

V. CONCLUSION

As shown by the PCB experience, international environmental treaties can hinder trade and reduce the welfare of countries that would otherwise participate in trade. To limit such problems, I propose a three-step test to help identify environmental problems that can be handled internationally. Environmental problems merit a coordinated international response if they have measurable cross-border
effects, if they are large enough to have some policy significance, and if the problems are unlikely to be remedied by Coasian solutions negotiated by neighboring countries. An international body could be charged with applying such a test to distinguish local environmental problems from those that are truly international. In addition, the United States acting unilaterally could announce that local governments have responsibility for remedying an identifiable class of environmental problems while acknowledging that genuinely international environmental problems, like global warming, merit a coordinated response.