
Toward Optimal Environmental Governance

Underlying the analysis in the previous chapter are two fundamental issues that go to the heart of environmental governance. How do we determine what is the appropriate level of government to respond to various environmental issues? This is the *jurisdictional question*. And how do we overcome regulatory failures and political constraints to optimize the performance of each level of government? This is the *policy optimization question*. In this chapter, we step back from an APEC focus to examine these questions broadly and to develop a generalized theory of optimal environmental governance.

The economics literature provides a ready answer to the jurisdictional question: to ensure optimal investment in a collective good such as environmental protection, political boundaries must be coterminous with the scope of the public good. In other words, the scope of a regulating government's authority or jurisdiction must match the scope of the externality that it seeks to address. In the case of physical pollution spillovers, the implications of this "matching principle" are quite straightforward.

Economic interdependence, however, complicates the issue of selecting and defining the optimal jurisdiction, since trade and investment linkages can lead to behavior that may have no physical spillover effects but does have real economic or psychological impacts on out-of-jurisdiction citizens. And the deeper the integration, the greater the exposure to economic and psychological spillovers—and thus the more intense the pressure to attend to these nonphysical externalities.

In particular, as trade links broaden, countries become more sensitive to the competitiveness impacts of variations in environmental standards.¹ When the goods exchanged are valued at a few million dollars, the impact will be small, and the risk of serious economic spillovers or of triggering a race toward the bottom in environmental standards is similarly minimal. When the level of trade rises to the billion-dollar level, the impact of economic spillovers will be much greater, capturing political and public attention as well as heightening the concerns of domestic industry. Thus, little notice was given in the 1980s to Chinese exports to the United States. Today, with an annual flow of goods on the order of \$40 billion (IMF, *Direction of Trade Statistics 1996*), considerable attention is paid to perceived “unfair” advantages enjoyed by Chinese firms, including those obtained through China’s suboptimal environmental standards.

By bringing citizens of different countries into closer contact with one another, economic integration fuels demands to transform a purely economic community into something more—a political community in which occupants are expected to adhere to certain minimum standards. In other words, the formation of an economic community, as we explain below, will necessarily be followed by the development of a wider sense of community. How deep and broad the set of behavioral baselines will be and how far they move from being minimum standards toward higher ethical aspirations will be determined by the depth and strength of the community in question, which is in turn partly a function of the breadth of the relevant economic ties.

Even if all environmental issues are appropriately allocated among the various jurisdictional levels, systemic regulatory failures and political constraints can lead to suboptimal environmental governance. We thus argue for a system of checks and balances that minimizes these welfare losses. In particular, we conceive of environmental governance as a system in which a range of actors—both governmental and nongovernmental—cooperate and compete, both vertically and horizontally, to sharpen the performance at each policymaking level.

As the discussion below shows, our two key questions—that of jurisdictional allocation and optimal governance strategies—are not distinct inquiries, to be undertaken one after the other, but are related and must be pursued in concert. Gaps at one level can be compensated for at another. Moreover, they are ongoing inquiries; evolution in capacity and

1. As we discuss in detail below, low environmental standards do not necessarily represent an unfair competitive advantage. In some cases, differences in circumstances—climate, geography, population density, income levels, etc.—justify less-stringent regulation, and the lower standards will be a legitimate dimension of comparative advantage. But in other circumstances, the standards chosen may not match public environmental preferences or may fail to internalize transboundary spillovers, in which case the lax requirements can be seen as inappropriate.

performance over time will make the optimal division of policymaking change across levels of government and among the actors at each level.

Jurisdictional Allocation

The issue of how to allocate responsibility for various environmental issues to jurisdictions at different geographic scales has received a great deal of attention in recent years at both the national level—especially in the United States,² Canada, and the Philippines—and at the supranational level, particularly within the European Union. In the United States, it has become fashionable to argue that authority over environmental regulation should be returned to the states in the name of “federalism” (Bill Clinton, State of the Union Address, 24 January 1995; Gingrich 1995, 9). In the European Union, localist opponents of environmental decision making in Brussels rally under the banner of “subsidiarity” (Kimber 1995; Lenaerts 1995). The common theme is support for decentralized environmental decision making, based on a belief that most environmental problems are local in scope and on a sense that political decisions made nearby are more likely to match citizen desires and thereby have greater legitimacy. But while such physical proximity to the citizenry is an important consideration in determining jurisdictional allocation, it cannot be the only factor. The jurisdictional allocation rule not only must respect the need for “proximity of government” (Lenaerts 1995) but also should minimize the welfare losses from environmental harms and regulatory failures (Esty 1996b).

The Dictates of Federalism and Subsidiarity

Far from supporting a simple presumption in favor of decentralization, a nuanced understanding of federalism and subsidiarity guides us to a more sophisticated jurisdictional allocation rule. Responsibility for environmental issues should be allocated on the basis of which level of governance is best equipped to address the issue in question.

As Elazar (1987, 5) observes, federalism involves the “linking of individuals, groups and polities in lasting but limited union in such a way as to provide for the energetic pursuit of common ends while maintaining the integrities of all parties.” Federalism thus entails a combination of self-rule and shared rule. There are many types of “federal arrangements,” reflecting a variety of ways to allocate power between the central government and state or provincial and local authorities (Elazar 1991). In Mexico,

2. Contributors to the environmental federalism debate in the United States include Fischel (1975), Stewart (1977), Gray (1983), Oates and Schwab (1988), Revesz (1992), Krier and Brownstein (1992), and Esty (1996b).

for example, the states hold very little power and almost all significant decisions (including the stringency of environmental standards) are made in Mexico City. But in Canada, the provinces retain considerable authority, making national initiatives difficult to execute. The United States falls somewhere between these two models. APEC itself is a federal structure, marked by especially loose ties and minimal power delegated to the center. Federalism is not—and should not be taken as—synonymous with decentralization. Instead, federal arrangements reflect the specific desires of constituent communities to share power among various levels of government.

Subsidiarity, a concept related to federalism, has been used in the European Union to settle jurisdictional questions, especially when Brussels and its members states have concurrent jurisdiction, as they do with respect to the environment (Trachtman 1992). Subsidiarity mandates that governmental action be taken at higher jurisdictional levels only if and insofar as the proposed objectives cannot be achieved by lower jurisdictional levels.³ But subsidiarity, like federalism, should not be seen as a guarantee of proximity of government—and thus as mandating decentralization—in all situations; rather, its preference for proximity applies only in those cases in which situating power at a lower level of government does not compromise an effective policy response.

In the context of environmental policy, a general presumption in favor of decentralization is misplaced (Esty 1996b). The real implication of both federalism and the related concept of subsidiarity is that while we might have a political preference for allocating power over environmental issues to the lowest jurisdictional level, that should be understood as the lowest level that can appropriately address the mischief in question. And in some cases this means governance at higher jurisdictional levels, since the benefits of localized representation and governance will be overwhelmed by the need for effectiveness. In particular, as we saw in chapter 4, super externalities can be addressed only by intervention at an overarching level. Far from being inconsistent with either federalism or subsidiarity, the need for regional (and global) governance structures flows directly from the diversity of problems that must be addressed, some of which are supranational in scale.

The logic of regional environmental policymaking as the best way to overcome regulatory failures in some instances does not mean that public dissatisfaction with decision making at a distance should be ignored.

3. See, for example, Article 3b of the Treaty Establishing the European Community, as amended by the Treaty on European Union: “In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and insofar as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community.”

On the contrary, whenever a highly centralized level of government is identified as optimal for a particular problem, there exists a special burden on officials at that level to be attentive to the need to communicate with the distant citizens in whose name they act.

Optimal Environmental Areas

For a jurisdictional response to be structurally adequate it must encompass all the cost bearers and beneficiaries of a resource use decision or environmental protection measure. When a jurisdictional response satisfies this criterion we say that it is the *optimal environmental area* (OEA). Which costs and benefits are salient can, however, be the source of considerable disagreement. In particular, do we look only at physical impacts, or are economic and psychological welfare effects also important?

Physical Super Externalities

The primary determinant of the scale of the OEA is the physical footprint of environmental harms and benefits. For example, the worldwide scale of the problem of climate change means that the globe is the appropriate OEA for dealing with it. Similarly, the depletion of fishing stocks in the Pacific is a problem of the regional commons, making the group of Asia Pacific nations the appropriate OEA to address the issue.

The need to take into account the full spectrum of physical costs and benefits to select the optimal policy jurisdiction—increasingly at higher jurisdictional levels, as our understanding of the broad reach of many environmental harms improves—is widely accepted (e.g., Farber 1996). The physicality of pollution spillovers and the tangibility of resulting harms to the environment and to public health create a strong public demand that such effects be factored into regulatory decisions. Economic theory, moreover, dictates that the scope of the governing jurisdiction match the scope of the physical costs and benefits of an environmental activity—be it resource use, pollution, or protection—to ensure allocative efficiency and optimal policy outcomes (Olson 1969; Baumol and Oates 1988).

Economic Externalities and Economic Integration

There is significant disagreement about the extent to which economic costs and benefits that flow from a jurisdiction's environmental policy choices should be factored into determining the appropriate scale of the OEA. In particular, if lower environmental standards in jurisdiction A impose economic costs on jurisdiction B (industrial migration, lost market share, lower profitability, etc.), or cause jurisdiction B to set suboptimally low environmental standards to minimize those economic costs, is supra-

jurisdictional cooperation warranted to ensure that the costs and benefits to both jurisdictions of their respective environmental policy choices are included in the regulatory calculus? In other words, is there an externality that should be internalized?

Of necessity, every domestic decision affecting economic policy will have international economic effects through adjustments to terms of trade (Krugman and Obstfeld 1994; Cooper 1994). But do these effects, if attributable to environmental policy differentials across countries, provide a basis for expanding the OEA to include the affected jurisdictions? The answer depends on the reason why the variations in policy exist: Do the cost differentials reflect legitimate differences in comparative advantage or are they an unfair distortion in the marketplace? As Bhagwati (1993a, 167) points out, there are “legitimate reasons for diversity in environmental regulation across countries. . . . [D]iversity of environmental regulations internationally reflects underlying diversity of endowments, technological know-how, and preferences over time and currently between income and pollution.” These differences are the foundation of comparative advantage and provide the basis for gains from trade among nations (Ricardo 1973). Recall, further, that the economic gains from trade provide environmental benefits by creating increased private- and public-sector capacity to pay for environmental protection and greater public demand for it.

But where competitiveness concerns threaten to precipitate a welfare-reducing race toward the bottom, we may argue for an expanded OEA to address the attendant economic externality. Such races may be more common than the existing empirical and theoretical literature leads us to believe (see chapter 5). Although there is limited evidence that higher environmental standards affect productivity and competitiveness, leading in turn to industrial flight to pollution havens, jurisdictions nevertheless frequently engage in strategic behavior in setting environmental standards and in determining how strictly to enforce their rules.

In some cases, a “race” induced by sensitivity to competitive position will actually improve welfare by forcing governments to regulate more efficiently (Tiebout 1956; Fischel 1975; Oates and Schwab 1988; Revesz 1992). But the regulatory market in which jurisdictions compete for industrial location is far from perfect and can thus be expected to deliver inefficient, welfare-reducing outcomes in many cases. Indeed, whenever (1) the possibility of externalizing part of the cost of pollution, (2) regulatory incapacity, or (3) public choice distortions cause a jurisdiction to deviate from its own optimal environmental policy, other jurisdictions will find that their welfare-optimizing environmental standards may not be the ones they would have selected were they “island” jurisdictions (Oates and Schwab 1988; J. D. Wilson 1996; Esty 1996b).

The likelihood of a race dynamic increases as economic integration deepens. As long as jurisdiction A is a comparatively unimportant destina-

tion of jurisdiction B's exports or if jurisdiction A is an unimportant international competitor, then differential environmental standards matter very little. But as the level of interaction grows, so too does the exposure to economic externalities. The growing value of US-China trade vividly makes this point. In 1995 Chinese exports to the United States topped \$24 billion and United States exports to China were \$16 billion (IMF, *Direction of Trade Statistics 1996*), up from \$3 billion and \$7 billion, respectively, just 10 years earlier. Add to this the fact that Chinese and US companies are, and will increasingly be, competing for market share in third-country markets, and the growing interest in supposedly "unfair" differences in environmental standards is not hard to understand.

Differential standards alone do not justify intervention. But if there is evidence that physical pollution spillovers exist or that one party to a trade relationship has standards regarding localized harms that systematically deviate from its own optimum, expansion of the OEA to address the perceived or actual economic costs may be justified. The need to act in this context arises from the same logic that compels supranational cooperation and WTO disciplines to address beggar-thy-neighbor trade policies such as tariffs, import quotas, and strategic currency devaluations. Where regulatory failure is serious and widespread and economic integration is significant, there will be a strong case for some type of environmental policy discipline or harmonization.

The historical precedents for such a response are instructive. Indeed, fears of unfair competitive advantage among the states motivated federal regulation of air and water quality in the United States in the 1960s (Esty 1996b). Similar concerns have also driven the harmonization of environmental standards in the European Union (Esty and Geradin 1997). ASEAN, too, is exploring the development of regional harmonization of environmental standards (ASEAN 1992; 1995). In brief, when economic spillovers are real and threaten to result in suboptimal environmental regulation, the size of the OEA should be set so as to capture the economic externality even in the absence of physical spillovers.

Psychological Externalities, Economic Integration, and "Community"

Given the task of identifying an OEA that is structurally adequate—large enough, that is—to include all the costs and benefits of a particular environmental issue or policy response, another question must be addressed: What happens if the effect on welfare derives from moral or aesthetic preferences and is thus purely psychological? Specifically, will a supra-jurisdictional response be needed to address psychological harms suffered by people as a result of behavior outside their own jurisdiction that imposes no physical or economic costs? Should American animal welfare advocates be able to have their views factored in when decisions are made about Mexican fishing practices that may kill dolphins or about Thai

shrimping operations that threaten endangered sea turtles? What if Canadians feel bad about the high levels of toxic chemicals to which Chinese factory workers are exposed?⁴

The answer to these questions, we believe, is intimately connected to the idea of “community.” The concept of community is important because it arises from a sense of shared values and connotes a degree of obligation by individual citizens to adhere to common norms and rules. If, therefore, those suffering psychological harms are part of the same community as those causing the harm, the victim’s views are generally factored into the policy calculus. If those suffering psychological welfare losses live in another political community, they will have no right to have their views reflected in the policy process. Difficulties arise because communities exist along a continuum from very tight to very loose, with many putative supranational communities falling in the latter category. But even in the most loosely structured international communities, some psychological welfare losses—if they arise from especially egregious behavior—will be deemed cognizable.

The degree to which jurisdictions are economically integrated can, moreover, affect the depth of the political community they form and determine whether a right exists to demand certain behavior from others. In general, the stronger the economic ties, the tighter the community, and the greater the content of the baseline ethical standards to which each citizen can hold all others.⁵ Close-knit communities will often demand much of their citizens, spelling out rules governing many aspects of life and providing informal norms that are even more encompassing. As the ties of community loosen, so too will the expectation of conformity to common standards.

In the case of federations such as Australia, Canada, and the United States, there is no doubt that the constituent subjurisdictions together constitute a strong community, not just founded on shared values but supported by entrenched and accepted community institutions. With minor exceptions, the residents of these communities feel that they are primarily members of the Australian, Canadian, or American polity and only secondarily citizens of their particular state or province. Being part of such a community requires a commitment to certain national behavioral

4. These examples are subtly different. The tuna-dolphin and shrimp-sea turtle situations involve harm that is extraterritorial to any country, while that of the toxic chemicals involves impacts *in* China. The claim to have a right to be heard on problems arising in the global commons is probably stronger.

5. In the 19th century, this “moral” underpinning for free trade emerged in the form of British discomfort with closer economic ties with the slaveholding American South (Haskell 1985). More recently, the public outcry in the United States over the subpar labor conditions in Central America under which American TV talk show hostess Kathy Lee Gifford’s clothing line was produced reflected the same tension (*Boston Globe*, 20 October 1996).

standards. All these countries have a legislated set of federal minimum requirements in areas such as the environment, labor, human rights, health, and social security. When some person or subgroup breaches these minimum standards, other citizens may feel aggrieved and, by virtue of their common membership in the community, they will have a legitimate basis for demanding that those violating the established norm correct their behavior, even if there is no physical spillover from the misdeed. Such a national political identity explains, for example, why the Australian federal government took into account the demands of non-Tasmanians to save valuable old-growth tropical forests when it overrode the plans of the Tasmanian government to dam the Franklin River. Similarly, President Clinton, in declaring a large swath of Utah to be a national monument (*New York Times*, 19 September 1996), took into account the conservation preferences of non-Utah residents.

Moving down the spectrum of political communities from most integrated to less integrated, we find a number of looser, newly federalizing communities such as the European Union (EU). The EU's 40-year history of trade and investment liberalization, its ambitious "single market" economic integration program, the trend toward social and cultural integration, the establishment of political institutions—including a Brussels-based EU regulatory structure, a European Parliament, and Court of Justice—mark it as a rapidly deepening community. As intra-European economic ties have strengthened, the European Union has broadened the set of minimum standards that govern participation in the community into a variety of areas, including the environment.⁶

Still further down this spectrum lies the integration of Canada, Mexico, and the United States through NAFTA. While this is clearly a weaker political community than the European Union, expanded North American economic integration has created pressures for the development of a broader set of community norms. In fact, "side agreements" addressing environment and labor standards had to be concluded before the United States would ratify NAFTA. These demands for noneconomic integration can be attributed partly to related economic concerns (e.g., competitiveness), but they also reflect the idea that being part of a community involves having a shared set of values that guide behavior.

Given this economic-political linkage, there is a limit to the degree to which economic integration can proceed without parallel noneconomic integration. Economic integration and broader community building must advance together to ensure that noneconomic tensions do not spill over into the economic realm (Farber 1996, 1270-73). Would Malaysians in the state of Johore be willing to accept products from Sarawak if they felt

6. For a discussion of psychological spillovers in the EU context, see Wils (1994).

that the goods coming into their state were produced under morally unacceptable conditions? Integration on social issues—through the development of, and commitment to, standards that are acceptable to all community members—facilitates further economic integration. As economic destinies become intertwined, the need to manage the unanticipated impacts of that integration will require added attention, for important noneconomic harms (such as labor displacement and environmental degradation) may well appear to be aggravated by the liberalization process (Rodrik 1997; Greider 1997).

Understanding the social imperatives of deepening economic integration is particularly important for APEC, which represents a new federal creation, albeit a nascent one. Deeper APEC integration—through further trade and investment liberalization, harmonization of competition policy, and, ultimately, macroeconomic cooperation—will need to be accompanied by the development of minimum standards of behavior with respect to social issues, including the environment. When these standards are not met, APEC's nations should expect that citizens in other countries may be concerned and respond by demanding remedial steps. Since APEC is a relatively weak community, however, the content of the shared values and therefore the extent of the community baseline initially will probably be rather limited. Psychological externalities will rarely give rise to a right to demand adherence to communitywide standards.

As a result, although many Americans are deeply distressed by certain Asian environmental lapses—the killing of sea turtles by Thai shrimp fishermen, destruction of coral reefs in the Philippines, the construction of highly polluting power plants in China—the localized effects of these choices do not represent an affront to APEC community standards. No matter how deep their psychological harm, those who are suffering do not have a right *within the APEC context* to require better performance. As a consequence, the unilateral action of the US government, prodded by animal rights activists, to impose trade sanctions on Thailand in response to objectionable shrimping practices may not be appropriate.⁷ This conclusion does not preclude those who are unhappy about the choices made elsewhere from trying to bring about better environmental practices through cajoling or through offers of training, funding, or other inducements. Moreover, since the content of the behavioral baseline will evolve with deepening integration, there may come a time when APEC coalesces into a community whose members can make a broader set of environmental demands on each other.

7. Of course, US citizens do have a right to choose to withdraw from further APEC integration—and further opening of their market to APEC exports—if they are uncomfortable with the behavior of their trading partners. Concomitantly, other participants in the APEC process may want to push Thailand not to act in ways that lead to a US withdrawal from APEC.

The challenges of dealing with psychological spillovers is compounded within APEC by three factors: the rapid pace of economic integration, growing public concerns in the United States and elsewhere about the implications of integration and the prospects of a globalized economy more generally, and disparate views about the importance that needs to be placed on noneconomic issues⁸—differences that both have a cultural basis and can be attributed to varying degrees of wealth and development. In sum, the commitment of APEC's members to a grand economic plan but a small "c" Asia Pacific political community cannot be squared. This disconnect may become increasingly conspicuous in the next few years.

The challenge is clear: integration on noneconomic issues, like the environment, must proceed at a pace that, on the one hand, provides comfort to developed countries that social issues are being attended to,⁹ and, on the other, satisfies developing members that the values of richer countries are not being imposed upon them unjustifiably in a way that disrespects their sovereignty, their capacity to meet advanced environmental goals, or their conception of the issues to which their nation should accord the highest priority.¹⁰ The balance will not be easy to strike.

There is no ready answer to the question of when psychological externalities will be salient in determining the appropriate scale of the OEA. What we do know, however, is that in each specific case when out-of-jurisdiction citizens demand attention to their psychological preferences, an inquiry will need to be made into the relevant community's identity and depth. Ultimately, value preferences must be respected as a matter of right where a community exists (in a strong sense) and when the behavior of some citizens does not meet communitywide expectations.

From Optimal Areas to Optimal Governance

The conclusion from the previous section is that for every environmental issue there is an OEA—based primarily on the physical scope of the harm,

8. The sharp difference between APEC members on the importance of noneconomic issues is brought into focus by ASEAN's decision to admit Burma as an ASEAN member despite human rights concerns. ASEAN's policy of "constructive engagement" is grounded on a "hands-off" policy toward the 'internal affairs' of other nations and the primacy of economic relationships over political and human rights concerns" (*New York Times*, 1 June 1997). Conversely, the American approach has traditionally sought to link economic engagement to political freedom, labor rights, and environmental policy.

9. The demand for integration along social dimensions is not just external, emanating from abroad. Citizens in countries where social standards are low often pressure their own governments to improve social performance.

10. Efforts to advance economic integration on a global scale face the same pressures and constraints that exist within APEC regarding the imperative of parallel integration on noneconomic issues such as environmental standards.

and secondarily on the reach of economic and psychological effects of environmental decisions—that should be the guide to situating governance of that problem. In other words, the size of the OEA helps to answer the jurisdictional question about where to allocate responsibility for environmental regulation.

While the OEA concept is clearly helpful, it does not provide a useful rule of application. Every environmental harm has a unique geographic footprint, defined by the reach of the relevant physical, economic, and psychological externalities. This implies an almost infinite number of OEAs and corresponding jurisdictional responses. Mundell (1961), in proposing a theory of optimum currency areas, had to contend with the very same problem, since a parallel principle suggests a separate currency for each discrete economic region in every country. In the environmental domain, as in the realm of currency, administrative inefficiency can quickly overwhelm any advantages that accrue to regulating at the optimal scale. Too many regulatory structures, each tailored to a particular environmental problem, produce chaos rather than effective results. The international community's experience with ad hoc international environmental management demonstrates this principle of diminishing returns when policy responses are individualized.¹¹

Thus, the challenge is to balance the desire to respond precisely to the geographic scope of environmental harms against the need to minimize administrative and regulatory inefficiency. To do this, we need a theory of optimal environmental governance that helps us to limit the number of OEAs. Domestically, most countries have found it useful to have two (i.e., local, national) or three (i.e., local, state/provincial, national) levels of environmental policy activity. Internationally, we see similar benefits to two or three primary tiers of environmental coordination.

The argument for global structures of environmental governance is impeccable because only a world-scale response will be structurally adequate when harms are global. Arguably, a global management structure could also take responsibility for regional-scale environmental harms. There are, however, a number of reasons to establish separate regional environmental management structures. First, the separation between national programs and a global response is too big, leading to losses in policy efficacy and efficiency. Second, because countries in a region share considerable ecological connectedness, they have a greater incentive to cooperate than is likely to be found in a global setting. Third, because economic integration often proceeds regionally, it provides a basis for attention to environmen-

11. Considerable theoretical work (Posner 1992; Ehrlich and Posner 1974; Diver 1983) has been done on the optimal specificity of regulations. The key issue is whether the benefits of particularization outweigh the inevitable administrative costs of narrowly tailored rules.

tal issues to ensure that progress on the environmental front parallels the deepening economic integration. Finally, in the APEC context, and as we see in greater detail below, regional structures of environmental management can help to overcome systemic deficiencies at both the national and global levels, optimizing their performance.

Optimizing the Performance of Each Level of Governance

As important as where we govern—the jurisdictional question—is how we govern—an issue of regulatory competence and efficiency. How to optimize the environmental performance of each governance level once a role for that level has been identified is therefore a separate and crucial concern. Even if all environmental issues are assigned to the theoretically optimal level, there are significant practical constraints that limit how well particular jurisdictions will perform. For example, while our theory suggests that localized harms such as pollution of rivers and lakes should be handled at the national or subnational level, the regulatory agencies at the national and subnational levels in many countries are severely hampered by regulatory incapacity. Thus, even though a national government may be theoretically best suited to a particular task, many countries will perform poorly because their environmental agencies are simply not up to the job. Similarly, although our allocation rule suggests that global harms should be addressed at a worldwide scale, we know that the existing structures of international environmental management are performing poorly, and that political constraints, at least in the short run, prevent the reforms required to improve them.

The prevalence of regulatory failures and political constraints requires us to examine whether the obstacles to improved performance at the optimal governance level might be overcome by substituting another level for the ineffective one. Indeed, the prospects of one level of governance improving the performance of others provides, in large part, the basis for APEC's role in environmental management (see chapter 6).

Improving Performance

By virtue of their role in addressing and compensating for the market failures that are the source of many environmental problems, governmental actors are central to environmental management. It is important, however, not to see governmental actors as the sole agents for addressing ecological and public health harms. Nongovernmental actors—businesses and environmental groups in particular—can make valuable contributions to the policy process and to environmental protection efforts.

Businesses make many decisions that can harm the environment, as they consume resources and pollute. But they are also responsible today for most investments in environmental protection (Esty and Gentry 1997).¹² The actions that businesses take regarding industrial safety, emissions and effluent reduction, resource conservation, waste management, life cycle product analysis, and environmental risk and crisis management are also central to environmental performance (Powers and Chertow 1997; Shrivistava 1994).

Through their policy and advocacy work, monitoring, training efforts, and, in some cases, direct attention to specific issues, environmental groups make important contributions to public health and ecological protection all around the world (Shabecoff 1993; Easterbrook 1995; Harday, Mitlin, and Satterthwaite 1992). NGOs also communicate the nature and extent of environmental problems to the public and help to build the political concern on which meaningful regulatory efforts must be grounded (Haas, Keohane, and Levy 1993; Keohane and Levy 1996). More broadly, NGOs contribute, particularly in developing nations, to the building of democratic institutions in “civil society” (Heyzer, Riker, and Quizon 1995).

Cooperation and Competition

The challenge is not just to help each government to improve its own environmental performance but to optimize the performance of the environmental “system” as a whole by overcoming the regulatory and political constraints that reduce the efficacy of each level of governance. Meeting this challenge requires systematic interaction among the various environmental actors.

The interaction between nongovernmental entities and the government may take the form of either cooperation or competition. In many countries, both businesses and environmental groups work with governments to identify issues, develop policy alternatives, and implement environmental programs.¹³ The literature identifies a wide range of supporting

12. Indeed, in the developing world, foreign investment now tops \$200 billion per year. Whether these private capital flows are channeled into environmental infrastructure and whether all development projects reflect appropriate pollution controls are the main factors in determining if the growth experienced will be sustainable (Esty and Gentry 1997).

13. Given that at least some of Asia’s tremendous economic success—in countries such as Japan, Korea, Malaysia, and Indonesia—can be attributed to close relationships between the public and private sector (World Bank 1993) we should be eager to further explore the possibilities of business-government cooperation in the environmental field.

roles for NGOs, including work as (1) service providers, often as government subcontractors (Bebbington and Farrington 1993); (2) watchdogs or private enforcement agents (Wapner 1995; Cameron and Ramsey 1995; Sands 1992); (3) lobbyists (Zadek and Gatward 1996; Cameron and Ramsey 1995; Covey 1995); (4) stakeholders (Shell 1996) or countervailing interests (Eikeland 1994); (5) agents of civil society enriching the public dialogue and representing interests not reflected within national governments (Spiro 1994; Susskind 1994); (6) policy analysts or expert advisers to governments (Charnovitz 1996b; Susskind 1994; Cameron and Ramsey 1995); (7) mobilizers of public opinion (Lindborg 1992; Clark 1995); (8) bridges between state and nonstate actors connecting local and global politics (Princen and Finger 1994; Gordenker and Weiss 1996); (9) change agents offering new viewpoints (Susskind 1994; Ahooja-Patel, Drabek, and Nerfin 1986; Jakobeit 1996); and (10) consultants to industry (Eikeland 1994).

While cooperation will often be valuable, there are many cases in which environmental governance will benefit from competition among actors.¹⁴ In the environmental domain, the most constructive competition is often between governments and NGOs (Esty 1997d). By advancing alternative data, science, risk analyses, cost-benefit studies, policy options, and program evaluations, NGOs force governments to constantly reassess and justify their environmental actions. Given the high degree of uncertainty in many aspects of environmental policymaking and the fast pace of change in environmental sciences, such a process of regular review is not just valuable, it is essential.¹⁵

Interaction—both cooperative and competitive—can occur not only “horizontally” among actors at one level of environmental governance but also “vertically” across levels. The possibility that regional structures can reinforce national and global ones lies at the heart of our proposal for an APEC environmental program. The opportunity to establish a multitiered governance structure—which may then provide both support

14. Some commentators have argued that environmental governance will benefit from regulatory competition among horizontally arrayed governments (Revesz 1992). However, as we noted in chapter 5, interjurisdictional competition in environmental policymaking frequently results not in optimal environmental performance but in a welfare-reducing race toward the bottom.

15. Interaction between environmental actors should not be one way. Governments can also help to develop the capacity of NGOs and business to contribute to better environmental performance. For example, governments may facilitate development of a more vibrant NGO community by giving legal recognition and legitimacy to NGOs, and by creating or encouraging the participation of NGOs in policy forums (Heyzer, Riker, and Quizon 1995, 29-30). Governments may also facilitate greater private-sector research and development in environmental technologies—through joint technical and scientific research or by financial incentives that encourage more research and development than is being provided by the market.

and creative tension—represents one of the fundamental arguments in favor of any federal system (Braden 1995). The benefits of vertical checks and balances across the local, state/provincial, and federal governments are well known in many countries with federal structures (Kincaid 1991). Additional strength can be achieved by extending this architecture to the international domain.

Conclusion

Optimal environmental governance involves two endeavors:

- *Allocating responsibility over environmental issues to the appropriate jurisdictional level.* Authority to respond to a particular environmental issue should be allocated to the jurisdictional level that can properly address the mischief in question. Primarily, this means ensuring that the jurisdiction selected—the optimal environmental area—is geographically matched to the scope of the physical spillover effects of an activity on the environment. The OEA must also be large enough, in some cases, to cover those who are economically and psychologically affected by production or resource use decisions and by a government’s environmental policy choices.
- *Optimizing the performance of each level of governance.* Systemic regulatory and political constraints prevent optimal environmental performance. Performance can, however, be improved by interaction among levels of governance and through cooperation with and competition from nongovernmental actors. In this regard, an APEC environmental program (especially one that engages NGOs and businesses) not only fills a gap in the environmental management hierarchy but also offers the promise of better performance for governing bodies at the national and global levels.