The Rescaling of Global Environmental Politics

Liliana B. Andonova[1] and Ronald B. Mitchell[2]

[1]Department of Political Science, Graduate Institute of International and Development Studies, Geneva 21, 1211, Switzerland; email: liliana.andonova@graduateinstitute.ch

[2]Department of Political Science, University of Oregon, Eugene, Oregon 97403-1284; email: rmitchel@uoregon.edu

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Key Words

governance, international, linked issues, networks, scale

Abstract

In the past half-century, the practice and study of global environmental politics and governance have been dramatically rescaled. They have become increasingly complex and interconnected with respect to the level (between local and global) at which they take place, the range of actors engaged in them, and the linkages between them and nominally nonenvironmental issues. Global environmental politics and governance have been rescaled vertically down toward provincial and municipal governments and up toward supranational regimes. They have also been rescaled horizontally across regional and sectoral organizations and networks and across new issues, such as development, security, and trade among others. This rescaling reflects shifts in the magnitude, complexity, and interconnectedness of the global environmental problems humans face as well as epistemological shifts in how humans understand and respond to these problems, and rescaling has implications for both the practice and study of global environmental politics.

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Global environmental politics: realm where actors pursue their interests through contestation, collaboration, and discourse using power, authority, and organizational abilities

INTRODUCTION

The practice and study of global environmental politics and global environmental governance have expanded dramatically in numerous dimensions since the 1960s. Hundreds of environmental problems have been identified and addressed at the international level (1, 2). International environmental problems are increasingly understood as entailing numerous connections both among ecological components and between the ecosphere and the anthroposphere, in coupled human-natural systems (3). Environmental problems previously seen as independent of each other are increasingly seen by practitioners and scholars alike as having multiple interdependent causes and needing coordinated and integrated forms of social organization and institutions for effective resolution. An international sphere dominated by interactions among nation-states has been replaced by one in which international organizations, substate governments, scientists, nongovernmental organizations (NGOs), and multinational corporations play major roles. We seek to describe and explain this "rescaling" of global environmental politics as an ever more complex and interconnected phenomenon.

The literature on environmental governance has increasingly emphasized the importance of scale, with particular attention to the ecological and institutional linkages across the scales at which environmental problems occur and are addressed (4–11). Humans address environmental challenges at local and global scales with nested systems of environmental governance institutions that must address the vertical and horizontal interplay across scales and processes of governance (5, 12). Given the spatial and temporal complexity of human-environment interactions that affect earth systems, the appropriate scale and locus for environmental governance are subject to political contestation, social construction, variable geography, and institutional adaptation (4, 7, 8).

Studies of globalization have highlighted that global governance has been rescaled away from the nation-state in multiple directions: vertically down toward provincial and municipal governments, vertically up toward supranational regimes, and horizontally across regional and sectoral organizations and networks (13, 14). The complexity of human-environment systems has been recognized as both an essential facet of the contemporary thickening of globalization and a factor that necessitates reconsidering the nature of governance responses (7, 15). The multiscale nature of environmental

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governance has been reinforced both by the nature of environmental problems and by efforts at global environmental governance by transgovernmental networks of NGOs and community organizations, by private corporations and foundations, and by increasing numbers of transnational partnerships between state and nonstate actors (16–19).

Recognizing the multilevel nature of global environmental governance, this article shifts the analytic focus toward the rescaling of the political processes that shape institutional structures. We analyze the rescaling of environmental politics to highlight substantial changes in the practice and scholarship of global environmental politics over the past several decades, including the rise of transnational activism, the emergence of green business interests, the contestation and reconciliation between environmental and economic policies, and the increasing efforts at coordination among international organizations.

Building on Young (5, p. 27), we define rescaling as a shift in the locus, agency, and scope of global environmental politics and governance across scales, with scales understood as the various ecological and social levels at which environmental problems and societal efforts to address them occur. We examine both vertical and horizontal rescaling. Vertical rescaling involves the shifting or linking of political action across geographical space or jurisdictions from the local to the global. Horizontal rescaling involves increases in the number and types of (*a*) actors and networks engaged in political activity on a given issue, (*b*) linkages actors make among environmental issue areas, and (*c*) connections and coordination among actors that bridge traditional boundaries between jurisdictions, institutions, sectors, and actor groups. Although analytically distinct, vertical and horizontal rescalings often overlap and interact. For example, the rise of transnational advocacy movements has generated an increased linkage of politics vertically across geographical and jurisdictional levels as well as horizontally by populating global environmental politics with denser networks of more diverse actors and increasing the number of environmental issues receiving attention (20–22).

Figure 1 highlights in bold lines the traditional focus of international relations on the interactions among states and intergovernmental organizations (IGOs).

We distinguish politics and governance as separate analytical categories to disentangle the dynamics of continuity and change within each, despite their intimate connection in practice. We view global environmental politics as the realm in which actors engage in contestation, collaboration, and discourse, using the power, authority, and organizational abilities at their disposal to pursue their interests with respect to environmental issues. Defined thus, politics is distinct from global governance and institutions defined as the norms, rules, laws, expectations, and structures established to guide behavior with respect to specified public purposes (see Reference 23).

We examine three dimensions of this rescaling of global environmental politics. We first review the intergovernmental realm of environmental politics and international cooperation and their rescaling to reflect the interplay of domestic and international politics; the role of epistemic communities and nonstate actors on the intergovernmental arena; and the vertical interactions between subnational, national, and supranational arenas of environmental politics. We then focus on the transnational realm of environmental politics, examining the horizontal rescaling triggered by the explosion in the number and type of nonstate actors involved in global environmental politics—and the transnational networks among such actors—as well as the vertical rescaling that these actors and networks generate by linking local and global concerns, interests, and strategies. We follow this section by examining the interplay between environmental degradation and the politics of international development, free trade, and security, which exemplify the horizontal rescaling that is taking place across numerous issues, including agriculture, consumption, gender, health, migration, and social justice. We then argue that the

Global environmental governance: the norms, rules, laws, expectations, and structures established to guide behavior according to a set of public purposes

NGO: nongovernmental organization

Scales: the levels at which phenomena and societal organization occur

Regime: a governance system, affecting more than one country, for a specific issue area

Horizontal rescaling: increasing linkages between actors and environmental issues that cross traditional boundaries between jurisdictions, institutions, sectors, and actor groups

Vertical rescaling: shifting or linking of political action across geographical space and/or jurisdictions from the local to the global level

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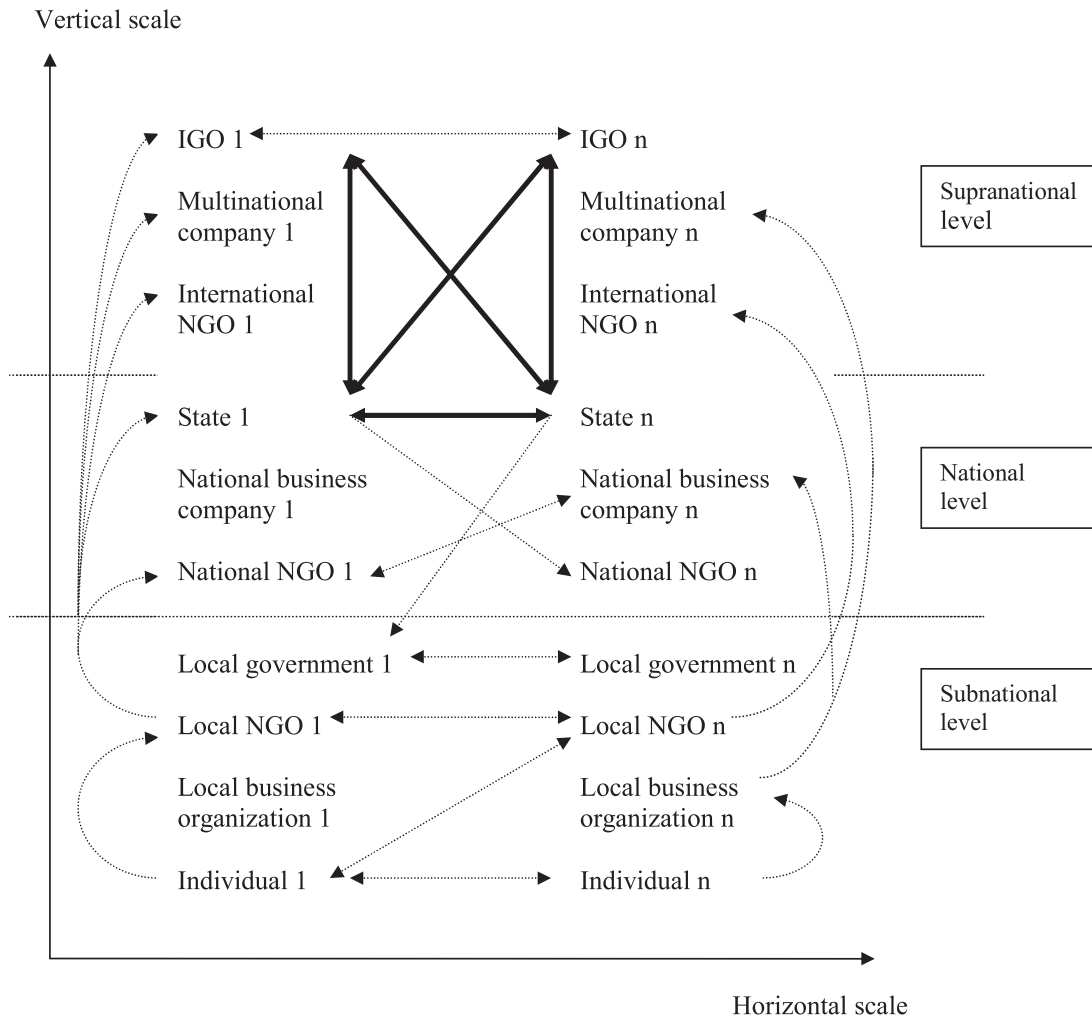

Figure 1

Dimensions of global environmental politics rescaling. Bold lines show the traditional focus of international relations. Dotted arrows identify interactions across the multiple scales at which environmental action occurs and the rescaling of global environmental politics away from interactions among states and intergovernmental organizations (IGOs) to encompass the myriad of political actors that operate across vertical and horizontal scales of jurisdictions, space, issues, and organizational domains. The notations 1 to n seek to capture the multiplicity of actors interplaying horizontally and vertically. NGO, nongovernmental organization.

rescaling of environmental politics reflects both an ontological shift driven by increasingly interdependent countries facing increasingly complex and interconnected environmental problems and an epistemological shift driven by scholars studying global environmental politics with increasingly interdisciplinary and diverse theoretical frameworks. We conclude by briefly examining the implications of this rescaling for the practice and study of global environmental politics.

RESCALING THE INTERGOVERNMENTAL REALM

Diplomats were conducting global environmental politics and diplomacy long before researchers started studying it. Contrary to the

conventional wisdom that international environmental governance began with the 1972 United Nations Conference on the Human Environment (UNCHE), antecedents to what we now call environmental problems were on the international agenda as early as the fourteenth century. Scores of bilateral fisheries treaties existed before 1800, and starting in 1900, countries were signing treaties to establish nature preserves and protect endangered species, to address excessive sealing in the Arctic and North Pacific, to contain invasive species in the form of contagious animal diseases and wine parasites, and to reduce conflicts over the diversion and distribution of river water (24, p. 608; 25, 26). By 1950, governments had signed additional conventions that, inter alia, addressed endangered species, threats to migratory birds, transboundary river pollution, the use of lead in paint, whaling, and many international fisheries (2, 27).

Since 1950, international environmental problems and intergovernmental attempts to resolve them have continued to increase. Fisheries, river management, and endangered species remain important problems. International cooperation to protect individual species gradually rescaled to address both a wider range of species and the importance of habitat protection. Numerous forms of ocean, river, and lake pollution were taken up in global and regional frameworks. Countries took up nuclear energy, radioactive pollution from nuclear testing, and nuclear accidents in the early 1960s and again in the 1980s. The intergovernmental environmental agenda continued to expand to include air pollution in the 1970s, stratospheric ozone depletion in the 1980s, and climate change, biodiversity loss, and desertification in the late 1980s and early 1990s. By the late twentieth century, countries were negotiating an average of 80 multilateral and bilateral environmental agreements, protocols, and amendments per year (2).

Scholars began studying such global environmental politics in the 1970s, in the wake of growing environmental concern. Kennan called in 1970 for the prevention of a "world wasteland" (28). Several people, including the Sprouts, Falk, Caldwell, and others, analyzed the issues raised at UNCHE (29–32). UNCHE itself became a watershed for rescaling environmental politics upward to the global level and intellectually toward greater academic interest in the global and human dimensions of environmental change (33). The small group of scholars that began focusing on international environmental politics in the 1970s expanded in the 1980s (34–38).

The end of the Cold War and the 1992 UN Conference on Environment and Development (UNCED) enhanced the political and intellectual importance of international environmental issues. Articles on international environmental politics became more common in mainstream international relations journals, journals dedicated to the issues were launched, and several presses began concerted efforts to publish sole-authored and edited books dedicated to the issues (39–43). A new cohort of researchers sought to identify the conditions under which international environmental problems arise and intergovernmental regimes are formed and are effective in responding to them (44–47).

Most early literature on international environmental regimes focused on intergovernmental politics, reflecting the dominant role of the state in the international arena and in the epistemology of international relations theories. Pathbreaking work by Young (37, 41) emphasized the role of states' structural and bargaining power in shaping collaborative outcomes, as well as the role of ideas and knowledge as sources of influence in regime formation. Scholars in the neoliberal institutionalist tradition examined the interactions between environmental leader and laggard states and the role of institutionalized commitments, information, and issue linkages between environmental problems and "high politics" concerns, such as the U.S.-Soviet détente, or between the environment, democratization, and development (39, 44, 46, 48). Constructivist analyses identified how discourse, knowledge diffusion, and consensus building influence how people and institutions frame,

UNCHE: United Nations' Conference on the Human Environment

Rescaling environmental politics: shifts in the locus, agency, and scope of global environmental politics and governance across different scales

UNCED: UN Conference on Environment and Development

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understand, and respond to environmental problems (38, 45). Despite their differences, however, most researchers focused on the power, interactions, institutions, knowledge diffusion, and discourse among nation-states.

More recently, however, the study of environmental politics has evolved. Scholars began to examine how various substate and nonstate actors—including scientists, the media, NGOs, and subnational governments—influence international negotiations (38, 49–51). The field began paying greater attention to methodological issues (52, 53). Databases allowing quantitative studies were developed to complement the extensive case studies that had dominated the subfield (2, 54, 55), and critical debates among scholars began to emerge (56, 57).

Analyses of regime implementation and effectiveness opened the box of domestic politics to explain variation in regime performance across countries and over time. Investigators began seeing and capturing the interplay between the domestic and international levels. Contrary to game theoretic and rational choice predictions, countries often complied with environmental treaties, and noncompliance frequently reflected lack of capacity rather than intention (58–60). Some compliance was recognized as potentially attributable to nontreaty factors, including least-common-denominator commitments requiring no meaningful policy change, exogenous policy or economic changes that generated unintended environmental benefits, and the treaty-independent mobilization of domestic environmental concern (39, 48, 60–62). But researchers also recognized that institutional rules and mechanisms could prompt key domestic actors to act in ways that prompted national compliance with international regulations (44, 63, 64).

Scholars have highlighted that developing countries, as well as industrialized countries, play an important role in international environmental affairs (65–67). Research and scholarly debates have highlighted the variation in environmental impacts across developing and industrialized states and increasingly among developing states (67–69). The central role of China and India at the December 2009 Copenhagen negotiations reemphasized the need to take account of material power, interests, and normative claims for fairness of developing countries, factors that had often been ignored by prior researchers.

The study of international environmental politics has also been rescaled to pay greater attention to the influence of domestic political factors on institutional effectiveness and change, with evidence from the problems of acid rain in Europe, whaling, species protection, and climate change (49, 50, 54, 70, 71). Analyses of the politics of global climate and water governance illuminated significant downward vertical rescaling, with the recognition of subnational entities (e.g., provinces and cities) as both loci of and actors in global environmental politics (8, 21, 51).

Upward vertical rescaling to supranational institutions has been foregrounded by the literature on regional integration, particularly with respect to the European Union where multiscale political processes have produced a dense web of environmental policies and regulations. Intergovernmental bargaining between European states and changes in domestic concerns have resulted in the export, convergence, and rescaling of national regulatory norms and practices to the European Union level (72). Transnational coalitions of states, experts, and corporate and nongovernmental actors and their interactions with supranational institutions, such as the European Commission and the European Court of Justice, have influenced regional regulatory processes substantially, as seen in the diffusion of stronger chemical safety and climate policies (70, 73, 74). Over time, the European Union has become an important actor in its own right, reflecting the collective preferences and normative leadership of its member states.

An important debate also emerged over the virtues of scaling up and integrating the organic and distributed structure of international environmental problems and institutions toward a more unified and centralized World Environment Organization (WEO). Advocates have

argued that a WEO would reduce redundancy and overlap; would more efficiently use the limited financial, administrative, and institutional resources available for international environmental protection; and would more effectively counterbalance the World Trade Organization (WTO) (16, 75). Others have argued that a centralized and state-centric WEO would undermine the benefits that the rescaling of global environmental governance has generated by creating "a new complex, decentralized international governance system [in which] more actors now engage in more governance functions at multiple levels of governance" (76, p. 13).

Interest in the influence of science and scientists on international environmental cooperation prompted another form of rescaling. A dynamic and interactive process exists between scientists and policy makers: Policy makers may turn to scientists and epistemic communities to identify the nature of the problem and to address whether, when, and what type of action to take but may also seek them out to support preexisting positions, as an instrument of policy-making strategy (38, 49, 50). Scientists and the global environmental assessments they produce can keep attention focused on an issue and reinforce an existing framing of that issue or, alternatively, can change the framing of an issue when current frames are seen "as barriers to effectively addressing problems on their agendas" (77, p. 190; see also 45, 63, 78).

Finally, the international environmental politics literature gradually reflected the important role nongovernmental actors play in identifying and drawing attention to environmental problems, pressing for intergovernmental action, and promoting intergovernmental agreement (51, 79–81). That literature also increasingly focused on how multinational corporations can circumvent or undermine efforts at environmental protection among, and sometimes even within, states (82).

The recognition of the role of nonstate actors in intergovernmental politics, institutions, and domestic implementation proved to be only the tip of the iceberg in the rescaling of environmental politics to acknowledge the importance of a greater diversity of actors. The next section discusses the transnationalization of environmental politics as a mode of horizontal rescaling that cuts across state jurisdictions and blurs traditional distinctions between domestic and international politics.

WTO: World Trade Organization

RESCALING THE TRANSNATIONAL REALM

The horizontal rescaling of global environmental politics has been most obvious in the growing density and influence of transnational organizations and networks of NGOs, multinational corporations, individuals, scientists, and others whose political activities transcend the state. Transnational relations—cross-border political interactions that skirt the foreign policy apparatus of the state—are not new phenomena, but growth in trade, communication, transportation, and other forms of interdependence have amplified their influence (83). This section examines how recent trends in democratization, globalization, communication, and international cooperation have prompted efforts to better understand the role that transnational actors play in global environmental politics.

Nongovernmental Organizations and Transnational Advocacy Networks

International NGOs and networks of NGOs now occupy "center stage" in the study of transnational politics. The 1970s saw a shift in the level of international engagement by environmental NGOs, marked most notably with respect to the whaling issue where various NGOs adopted a range of tactics—lobbying powerful governments, staffing delegations of less powerful ones, engaging the news media, mobilizing politically, and, on a few occasions, taking direct action such as scuttling whaling ships—to reframe whales as sentient mammals rather than a source of protein (84, 85). Transnational NGOs' campaigns in many other arenas built on and developed these tactics to influence the agenda and the framing of the problems of acid rain, biodiversity, large

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dams, hazardous waste, marine pollution, and ozone depletion (21, 39, 63).

As NGOs have increased in number and in the sophistication of their strategies, they have also received more concerted analytic and public attention. The 3,000 extant international NGOs in 1970 had become 20,000 by 2005 (86). And these groups were increasingly active in global environmental governance, with the 170 NGOs at the UNCHE (1972) becoming 1,400 at UNCED (1992) and 8,000 at the World Summit on Sustainable Development (2002). NGOs are often quite adept at mobilizing vertically (from local to global) and horizontally (across countries). A proposal by Conservation International's Lovejoy in 1984 prompted numerous debt-for-nature swaps in which developing country governments protected natural habitats in exchange for NGOs—and later foreign governments—purchasing or writing off their international debt obligations (87, 88). Other initiatives of transnational NGOs have included government-private sector collaborations in bioprospecting, payment for ecological services, and, most recently, carbon offset initiatives.

Scholars also highlighted the influence of "global civil society" as a source of pressure within countries, across borders, and internationally (89, 90). NGOs based in a single country and international NGOs can foster environmental protection by providing critical resources, e.g., information, legal analyses, and financing, not available to local activists (67). Transnational networks allow local NGOs to pressure international institutions in ways that can lead national governments to improve local environmental conditions in a boomerang effect, as illustrated in efforts to halt large infrastructure projects that would have generated pollution or endangered biodiversity or indigenous rights (20, 91, 92).

Nongovernmental actors and networks have also targeted corporations, using strategies such as naming and shaming to respond to environmental accidents, such as oil spills; using consumer boycotts and labeling campaigns, such as those involving dolphin-safe tuna; and developing certification systems for fish and forest products (18). Environmental groups have brought transnational legal cases in various countries to halt corporate environmental harms in other countries. And NGO pressures on multinational corporations have led to adoption of more environmentally friendly policies at home but also to multiplier effects when those corporations enforce those policies in their foreign offices and throughout their supply and investment chains (18, 93–97).

Multinational Corporations and Transnational Business Associations

Although NGOs rarely deserve exclusive credit for corporate adoption of environmental behaviors, NGO norm entrepreneurship and diffusion have been an important factor in the rescaling of corporate environmental politics. Corporate policy changes reflect the interaction of NGO pressures with other concerns (98). Although corporations may only adopt environmental policies that are economically beneficial, they often do so only after NGO pressures lead them to reevaluate, in new ways, the benefits of improved environmental practices. Many business sectors face various pressures to become "greener," including consumer demand, environmental regulations, managerial ethics, and aesthetic concerns (97, 99, 100).

NGOs also can induce companies to adopt a logic of appropriateness in which proenvironmental behavior becomes the "right thing to do" even when economically costly (101). During a norm emergence stage, NGOs try to convince companies to become leaders who are greener than their corporate competitors, with potential first mover economic advantages (102, p. 895). In a second norm cascade stage, companies face "a combination of pressure for conformity, a desire to enhance international legitimation, and the desire . . . to enhance their self-esteem" (102, p. 895). This "don't be a laggard" stage arises when enough companies have adopted environmental behaviors that it becomes socially costly not to engage in that

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behavior (103, 104). This logic explains, at least in part, the politics of differential uptake and diffusion of corporate social responsibility practices as well as voluntary environmental targets and management standards (17, 93, 95, 99, 105–107).

Even without NGO pressure, multinational corporations have helped rescale environmental politics across borders because of their sensitivity to consumer concerns in a context of increasing integration into and dependency on global markets (99, 108). Environmental regulation in large markets, particularly the United States and the European Union, creates incentives for multinationals either to oppose regulation or to have such regulations adopted internationally to level the playing field (109). "Trading up" can occur when companies, operating in countries with lax environmental regulations, produce to the standards required for access to the markets of countries with demanding regulations (70, 110).

Even in the absence of regulation, many major corporations have altered their environmental management, energy profiles, and political strategies, including establishing corporate carbon-neutral goals, packaging carbon offsets with products to attract customers, and purchasing large amounts of renewable energy. Such initiatives reflect the influence of increasingly dense networks of business associations and initiatives promoting renewable technologies, offsets, and other climate mitigation practices, rather than isolated company strategies. Business associations, such as the World Business Council of Sustainable Development (WBCSD), the International Chamber of Commerce, the International Business Leaders Forum, and the World Economic Forum, have developed and promoted green business ideologies and collective guidelines whose impacts can be wide-ranging because they often involve commitments to altering practices at all points in a company's supply chain. Often corporations that see proenvironment actions as worthwhile but costly support such collective efforts as mechanisms for mitigating comparative disadvantage by spreading environmental practices across industrialized, developing, and transition countries (70, 93).

The climate change arena highlights the multifaceted and multiscale nature of corporate environmental politics. The disbanding of the Global Climate Coalition symbolized the end of business politics en bloc and was followed by unprecedented splits in the climate change strategies of different sectors and companies. Although some companies continue to lobby against climate regulation, others have adopted and achieved voluntary carbon reductions, promoted the transfer of renewable technologies, organized national and regional carbon offset initiatives, and called for governments to take more concerted action on climate change (96, 111).

WBCSD: World Business Council of Sustainable Development

Multiple analytical perspectives have been used to shed light on the implications of the rescaling of corporate strategies for the environment. Some analyses emphasize the ability of corporate interests to use voluntarism, green marketing, and similar strategies to consolidate their influence and shape the future direction of environmental policies (111–113). The greening business literature has illuminated economic arguments for environmental sustainability and transnational engagement to explain differences in environmental business strategies within sectors, across sectors, and across countries (97, 99, 105, 106). And other scholars have highlighted the political economy of transnational corporate organizations and its implications for global, regional, and national environmental regulation and for the diffusion of voluntary environmental practices across scales and markets (17, 70, 106, 110).

Individual Action

Transnational environmental politics also have been rescaled by the growing visibility and significance of the actions of individuals. Many movements that have developed into transnational networks began through individuals' efforts to organize locally against socially destructive environmental abuses. Chico Mendes, Wangari Maathai, Ken Saro Wiwa, and many

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less famous activists in developing countries have sought to increase awareness of local environmental problems with global sources and to prompt action to avert them. The efforts and ideas of such individuals have been scaled up through transnational networks, profoundly influencing the normative and organizational context of global environmental politics. Savvy individual leadership at the international level—such as former UN Environmental Programme (UNEP) Director Mostafa Tolba's skill at offering initiatives at critical political junctures—has fostered both the pace and rigor with which countries pursued environmental treaties (114). Maurice Strong, chair of the UNCED, and Stephan Schmidheiny, founder of the WBCSD, played powerful roles in bringing business into global environmental politics and promoting green business ideologies. The granting of the Nobel Peace Prize to Wangari Matthai, Muhammad Yunus, and Albert Gore celebrates the difference a single individual can make in scaling up innovative ideas and environmental concern across space, jurisdictions, cultures, and generations.

Individuals also play a role as the targets of transnational networks, whether as consumers and citizens or as members of households, communities, or professional groups. NGOs inform individuals of the environmental consequences of their behaviors to prompt changes in those behaviors. NGO Web sites provide carbon footprint calculators and try to motivate action with lists of actions to reduce your footprint. Individual demand for carbon offsets and individual entrepreneurship, driven by a combination of personal beliefs, NGO campaigns, and corporate advertising, have grown carbon offset markets more quickly than institutional and investment incentives alone would predict (115, 116). These campaigns take advantage of the fact that people's incentives and normative commitments differ in ways that lead some to take actions that others consider as counter to their self-interest (11). Thus, it is not only the individual environmental actions of prominent activists but also the "uncountable, independent decisions in daily life by individuals, by industry, and by governments all over the globe" (117, p. 184) that contribute to environmental degradation but also can promote environmental protection.

Localizing and Regionalizing Global Politics

The proliferation of transnational networks has helped localize global issues, globalize local issues, and organize collective action across levels of politics. This tendency is visible with respect to issues such as fresh water, forestry, biodiversity, and climate change. Each of these arenas has a significant global dimension, and yet their exploitation is often local or regional in nature and highly dependent on the interplay of local and global factors. Failures to address crises associated with localized global resources are due, at least in part, to a political and academic preoccupation with intergovernmental politics that, until recently, has inadequately understood the multiscale nature and interdependencies of various resources and their exploitation (6, 8, 10).

The literature on water, for example, has clarified the importance of multiple actors and networks, including local communities; private actors; subnational governments (8, 118); transnational epistemic communities (119); regional organizations (120); and crosscutting processes of conflict, deliberation, and cooperation. Supranational and transnational regional politics have also influenced the protection of river basins, regional seas, and other water resources (38, 120, 121).

Urban management is another local issue that is affected by global environmental problems and, increasingly, has impacts on global political action. Many cities have programs to reduce their waste disposal streams, to reduce water usage and improve water quality, to reduce air pollutants, and to manage urban growth. Such programs can be motivated by economic concerns, environmental concerns, or both. In the realm of climate change, the International Council for Local Environmental Initiatives (ICLEI) has coordinated such

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efforts, getting many municipal governments to adopt greenhouse gas emission reduction strategies even though such actions are often costly, have miniscule effects on greenhouse gas concentrations, and exceed national regulatory requirements (122). Developing a dense transnational network of municipalities already committed to addressing climate change has allowed ICLEI and other networks of cities to extend their influence for climate change by consolidating political legitimacy and authority and leveraging financial and informational resources (123, 124).

Transnational networks linking public officials and subnational units of government also have been central to regional and global initiatives for environmental problems. Especially in countries with national governments reluctant to take action, subnational governmental units have organized transnationally to take action, as evident in American and Russian subnational and regional initiatives to promote and coordinate climate mitigation and adaptation strategies (64, 125). Nor is such transnational coordination of subnational governments new: Provinces, states, *länder*, cantons, and other governmental units have signed transborder agreements to address shared environmental problems for decades (2).

Transnational actors, associations, markets, networks, and even individuals are, in sum, essential elements of the rescaling of environmental politics into a multiactor, multidimensional domain. They are, in many respects, the political "transmission belts" connecting local, regional, and global scales and creating new transnational domains of political action.

RESCALING ACROSS ISSUE AREAS

The political and scholarly recognition of the linkages between international environmental degradation and other issues is a third dimension of the rescaling of environmental politics. Until the 1980s, environmental issues tended to be treated as distinct from other issues. But policy makers and scholars increasingly have acknowledged that environmental problems have crucial implications for other issue areas and that developments in other areas have important implications for the environment. Here, we examine connections with development, trade, and security as examples of the interconnections between environmental politics and an increasingly wide range of issues, such as agriculture, gender, health, migration, social justice, indigenous peoples, and population.

Environment and Development

The World Commission on Environment and Development (the Brundtland Commission) visibly and explicitly rescaled global environmental issues by reframing economic development and environmental protection as necessarily interconnected (126). The Commission developed and popularized the view that development and environmental protection are "complementary goods," arguing that traditional forms of development degrade the environment but also that environmental degradation threatens economic development (126, p. 37). But much of their report is a normative argument that economic development should take account of environmental quality and that certain "strategic imperatives" exist with respect to environment and development policies (126, p. 49). Indeed, the Commission and Agenda 21, the main programmatic document adopted by states at the UNCED, sought to foster extensive rescaling across issue areas, linking environmental protection, inter alia, to development, poverty, the plight of indigenous peoples, energy policy, and urbanization (126, 127).

Such broad rescaling has been paralleled by institution-specific rescaling with respect to the World Bank and other multilateral development institutions. By the late 1980s, environmental activists had already prompted environmental reform within various multilateral development banks, and scholars were beginning to analyze that process (128). Multiple political factors influenced the greening of the World Bank. Advocacy campaigns, amplified by calls for organizational change by Bank

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staff and pressure from key donor countries, led to several waves of reform and organizational adjustment to accommodate environmental and social accountability objectives (91, 129).

In 1992, the World Bank signaled a paradigmatic and rhetorical shift toward the greater prioritization of environmental issues by focusing the *World Development Report* on *Development and the Environment* (130). World Bank client countries were encouraged to prepare national environmental plans and strategies, environmental and social assessments of Bank projects were better institutionalized, and greater internal accountability was demanded (91). The share of World Bank projects with significant negative externalities on the environment diminished, and more lending was made available for green projects (91). The Bank's reports subsequently took up sustainable development in 2003 and, in 2010, highlighted the pervasive implications of climate change for the development, vulnerability, and sustainability of the economies of the least-developed countries (131, 132). The rescaling of environment and development politics toward sustainable development has affected other international institutions, including the United Nations Development Programme, regional financial institutions, and international development assistance more broadly (129, 133–135). And collaborative partnerships between international institutions and nonstate actors have introduced an additional layer of cross-scale interactions with respect to sustainable development (19, 136).

Although many scholars and activists saw value in the greening of development politics, skepticism remains. Some characterize the rhetoric of sustainable development as green-washing free-market capitalism and maintaining power imbalances, thus avoiding more fundamental changes that true ecological sustainability would require (112). Studies of the greening of the World Bank highlighted the public relations character of many early initiatives and reported that the delegation of environmental authority to development-oriented institutions could lead to environmental protection being ignored or worse (91, 128, 137). Collaborative partnerships between the World Bank, NGOs, and the private sector have also been challenged by activists for promoting donor country priorities, rapidly emerging economies, and low-cost solutions rather than green technology development and the resilience of the least-developed countries. The recent readjustment of World Bank strategies toward greater attention to climate vulnerability, livelihoods, and poverty reduction illustrates the dynamic, contested, and ongoing nature of cross-issue rescaling within sustainable development (19).

Environment and Trade

The relationship of international trade to environmental protection has also been a central concern for a quarter century. The early debate over the negative versus positive impacts of trade on the environment (138, 139) has been extended to include the influence of international trade on the diffusion of voluntary environmental standards and certification and on environmental justice (17, 93, 106). These debates have identified both economic and political paths of interplay between trade and the environment.

Economically, international trade has both negative and positive environmental impacts (see References 138 and 139). Reducing trade barriers generates a competition effect that leads to fewer resources being used in each unit of a good produced, assuming those resources are priced. But lower prices generate a countervailing "scale effect" by leading to production of more goods, with corresponding increases in natural resources used and pollution produced. Trade has a "composition effect," altering the balance among the manufacturing, agriculture, and service sectors as each country develops disproportionately in those sectors in which it has a comparative advantage. Trade has a "technique effect" in which consumers' choices of certain products over others determine where products are produced, which, in turn, influences the production processes used and, hence, the

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environmental effects incurred. Finally, there has been considerable interest in, and controversy over, whether an environmental Kuznets curve exists, i.e., that greater trade fosters growth in personal income and, thereby, generates a shift toward environmentally friendly consumer and policy choices (140–143).

Politically, there has been a vigorous debate about whether freer trade fosters "pollution havens" and/or a regulatory race to the bottom, top, or middle (138, 139, 144–148). The pollution haven hypothesis suggests that economic situations and political preferences may lead developing state governments to establish weaker environmental regulations to attract industrial development (149). The related, but distinct, race to the bottom hypothesis suggests that trade liberalization will reduce environmental standards, even in developed states, if domestic interest groups succeed in getting governments with strong environmental standards to repeal those standards because they will make the country less economically competitive (106, 150).

But international trade may cause a race to the top in which environmental policies converge upward. Upward convergence can reflect either powerful leader states making trade expansion contingent on tougher environmental standards in laggard states or less conscious policy diffusion in which governments mimic other countries' policies, learning from others' successes and trying to avoid being considered an environmental laggard (72). Although theoretically possible, most developed country governments have found it politically impossible to roll back strong environmental standards. And the desire to access markets in these countries—and the need to meet the importing country's environmental standards—presses corporations and, eventually, governments in developing countries to match those higher standards (70, 106, 110). Between these extremes is the notion that there is a race to the middle resulting from self-conscious intergovernmental coordination and less-coordinated action by governments and nongovernmental actors, with some states increasing their environmental standards and others reducing—or delaying increases in—theirs (148).

These theories generate numerous competing predictions, both individually and collectively. Put simply, increased trade is held to improve environmental quality and policy, degrade them, change them, or leave them unaffected. None of these competing views can be discounted on theoretical grounds and, so, accurately judging the trade-environment relationship requires empirically evaluating the net effect of both positive and negative linkages. A rich empirical literature has emerged to assess these competing hypotheses, revealing that the direction and magnitude of the impacts depends on various factors, including the type of environmental problem in question, national factor endowments and politics, and the interplay between international economic openness and domestic politics (139). Race to the top dynamics have been demonstrated for industrialized countries, for trade dyads, and for a global sample of countries using relatively weak indicators of environmental sustainability (106, 110, 138, 145). By contrast, trade's impacts on developing countries remains contested, and the diffusion of voluntary standards remains skewed toward large industrialized markets (17). The theoretical simplicity sought by many—that trade either helps or harms environmental quality—is usually frustrated by a complicated economic and political world in which most theorized influences of trade on the environment appear to operate, but their net effects depend on particularities regarding the countries involved, the environmental indicators of concern, their measurement, and the background context.

The cross-issue rescaling of trade and the environment also has an institutional dimension (151). The WTO, like the World Bank, has been a target of intense advocacy action and a forum for the resolution of trade and environment disputes (152). Unlike the World Bank, however, advocacy pressure has not led to major WTO reforms, reflecting, in large part, the limited political interest of developed and developing member states in such changes. Although some studies have explored the relationship

between climate change mitigation measures and trade, this cross-issue linkage is only now beginning to emerge on the international agenda (153–155). That this has begun to change is evident in the U.S. House of Representatives passing energy and greenhouse gas emissions legislation in 2009 that reflected domestic interest groups pressing for tariffs on goods from countries that lacked binding carbon emission targets. In reaction to such pressures, and in an effort to preempt the risks of linking protectionist measures to climate policy, the WTO and UNEP collaborated on a joint report on trade and climate change (156). This episode exemplifies the multiscale dynamics in the politics of trade and climate and the activation of cross-issue rescaling through politics, discourse, and institutional practice.

Environment and Security

Both scholarship and practice began to recognize the important and inherent relationship of environmental degradation to national security in the 1980s (for a review, see Reference 157). Scholars highlighted the inconsistency in treating threats to important national resources and values as national security threats if they came from the military apparatus of foreign governments but not if they came from environmental degradation (158–160). These arguments coupled a normative claim that those concerned about national security should be concerned about environmental protection with an empirical claim that environmental degradation did increase national security risks. During the 1990s, Homer-Dixon (161) spearheaded a major research program focused on evaluating whether environmental degradation increased the likelihood of acute conflict. Declines in the amount and quality of renewable resources lead to resource scarcity, which can be exacerbated by population growth and unequal access to those resources (161). Resource scarcity, in turn, can decrease economic productivity and prompt internal conflicts that lead national subgroups to migrate, or be expelled, from their home countries. These dynamics, in turn, weaken the countries in which they occur and can generate acute conflict within and across borders (161).

Research in this area has expanded considerably over the past decade. Scholarship has focused on violent conflict arising from both environmental degradation and from environmental abundance (the "resource curse") but has expanded to include how environmental cooperation promotes peace, how war affects the environment, and how environmental protection promotes human (as opposed to national) security (157). This wealth of scholarship has resonated with policy makers. Scholars have become sought-after advisors to national security and intelligence agencies. Many countries' national security assessments and strategy documents now treat environmental issues, and particularly climate change, as central security threats (162–164).

Yet, both the empirical and normative claims of this literature have been questioned. Deudney (165) argued that the linkage was analytically misleading, empirically inaccurate, and normatively counterproductive. Linking environment and security misleads because it focuses attention on the influence of environmental scarcity on war rather than vice versa; because environmental degradation threatens individual security, not national security; because the sources and impacts of, and solutions to, environmental damage occur above or below but not at the national level; and because national security entails protection from intentional acts of aggression, whereas environmental degradation reflects an unintended by-product of other activities (165). Empirical studies investigating the environment-security link have been critiqued for problems in defining their variables, for developing excessively complex and untestable models, for failing to develop appropriate counterfactuals, and for applying theories of interstate conflict to intrastate civil wars (166). Deudney (165) also argues that framing the environment as a national security problem prompts the wrong response by suggesting that we can leave environmental protection to government in general, and the

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military establishment in particular, and by reinforcing an "us versus them" nationalism that undermines development of the sense of world community, global citizenship, and individual responsibility necessary to address our environmental problems effectively.

This debate has generated a mature dialogue in which scholars have critically engaged and evaluated each other's claims in ways that have fostered methodological, theoretical, and empirical progression (see, for example, Reference 166). It has generated greater policy attention to dimensions in the environment and security nexus that were relatively overlooked, including the influence of armed conflict on the environment; the role of environmental assessment and collaboration in postconflict reconstruction and peace building; and the linkages between global environmental change, migration, and human security (157, 167, 168).

UNEP's Post-Conflict and Disaster Management Branch, created in 2001, and its activities in postconflict reconstruction in the Balkans, the Middle East, Africa, and Afghanistan exemplify the rescaling of the practice of environmental politics to foster human security and peace. UNEP's work has engaged the academic community and has been reflected in analyses of the pathways through which war affects the environment and the implications of environmental postconflict assessments, capacity, and rehabilitation for human security and peace building in fragile societies (167).

An increasingly salient dimension of the environment-security nexus has been the actual and potential impact of environmental factors on human displacement, livelihoods, and cross-border tensions. Researchers have become concerned not only with migration in response to unintended environmental damage but also with "coercive conservation" in which efforts at protecting wildlife have led to the intentional displacement of people from their traditional lands (169). At the same time, the growing recognition among the conservation community of the interdependence of the rights of indigenous people and their natural environment has strengthened the voice of local populations and has pushed those developing conservation strategies to give greater consideration to local livelihoods (20, 91). Conservation practices such as regional "peace parks" and other initiatives are increasingly recognized as potential bases for fostering regional security.

Climate change and vulnerability have further amplified the cross-issue rescaling of political and academic discourse to link environmental change, migration, and security. The first UN Security Council debate on climate change held in 2007 was prompted by concerns that "climate change threatens international peace and security through its effects on border disputes, migration, resource shortages, social stress, and humanitarian crises" (170, p. 303). In 2009, the International Organization for Migration estimated that between 25 million and 1 billion people may be affected or displaced as a consequence of climate change, helping to place the issue of climate-induced migration in the spotlight of political debates (171). Many recent scholarly and policy reports frame climate change in national and international security terms, in line with a larger trend to "securitize" nonmilitary concerns, "such as HIV/AIDS, human rights, transnational crime, and the environment" (see 170, p. 303). Environmental justice has also emerged as a recurring theme across these arenas, with respect to indigenous rights and displacement, with respect to the rights to development and a clean environment, and with respect to climate justice in response to a growing awareness of the uneven impacts that climate change is likely to have on human vulnerability across and within states (71, 172).

The cross-issue rescaling we have just discussed has not occurred in all areas, however. Agricultural subsidies have received relatively little attention from activists, policy makers, or environmental politics scholars despite their obvious role in hindering sustainable development and sustainable agriculture. Similarly, the rescaling of urban politics with respect to climate change has received much attention, whereas the linkages among urban planning, environmental protection, poverty, and other social problems associated with urban

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life have received relatively little attention. Cross-issue rescaling in promoting a serious and wide-ranging debate on consumerism and environmental degradation also remains underdeveloped (173, 174). Such differences in the direction and extent of the rescaling of environmental politics raise questions about what gets on the international environmental agenda and what have been the driving forces of this rescaling, questions we address in the next section.

EXPLAINING THE RESCALING OF GLOBAL ENVIRONMENTAL POLITICS

Global environmental problems reflect a range of ecological, scientific, social, economic, and political complexities and interdependencies. They manifest themselves in different ways across political spaces and jurisdictions from the local to the international, engaging diverse actors at each level (5, 6, 10). Given the inherently multidimensional nature of environmental issues, what explains the significant rescaling of both the scholarship and practice of global environmental politics over the past two decades? Does this rescaled treatment reflect an ontological change driven by changes in the ecological, economic, social, political, and technological realities of these problems? Or is it primarily an epistemological change in which the reevaluation, if not wholesale rejection, of a focus on the nation-state and intergovernmental interactions has allowed the emergence of an increasingly accurate recognition of the more complex and realistic ontology of multiple actors interacting on multiple levels that was always there? We posit that the rescaling of environmental politics reflects both influences, an interplay that has resulted in a closer fit between subject matter and analytic tools (175). Real changes in the magnitude and complexity of environmental problems, globalization, and institutional density have generated changes in the character of global environmental politics that, in turn, have influenced and been illuminated by the increasingly sophisticated and multidisciplinary theoretical toolbox of the study of politics.

Magnitude and Complexity of Environmental Problems

People have been transforming the earth at least since development of the ability to control fire (176). The development of tools, the agricultural revolution, the industrial revolution, and human population growth have led to a situation in which more human impacts exceed nature's ability to absorb and recover from them and a greater share have transnational or global impacts that require transnational or global responses. In some arenas, human environmental impacts may reflect exponential rather than arithmetic growth rates, generating impacts that are not greater in proportional terms but are dramatically larger in absolute terms. An invasive plant whose population doubles every year may take 13 years to cover half of a lake but will require only one additional year to cover the whole lake. So too, we may be experiencing only the last in a sequence of impacts from environmentally damaging behaviors that exhibit exponential growth, including pollution of the atmosphere, rivers, lakes, and oceans; losses of wetlands, tropical rainforest, and other habitats; species extinction; and various indicators of climate change.

The combined effects of various human behaviors also create ecologically more complex problems. Global fish populations are in decline not only because of overfishing but also because of marine pollution, fish farm escapement, warming ocean temperatures, and ocean acidification (177, 178). Biodiversity loss increasingly reflects the cumulative and interactive effects of hunting, habitat loss, invasive species, pollutants, pesticides, and air and water quality. The Intergovernmental Panel on Climate Change's climate models recognize and model the multitude of economic, technological, demographic, and cultural factors that contribute to climate change and the complex ecological response of the natural system to such forcings. Environmental changes, in turn, affect human societies in ways that vary considerably across localities, socioeconomic groups, regions, and countries, with some effects better understood

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than others. The concept of "coupled natural and human systems" (3) captures the complexity of many modern environmental problems in which relevant human causes, nature's responses to those causes, and the human impacts of those responses are multiple and interacting and involve complex positive and negative feedback loops. This recognition has been forced upon us by the increasing strength of nature's feedback signal but also by changes in human understanding of the environment, not least the increasing acknowledgment of the human dimensions of environmental change (179).

If environmental problems have become more complex over time, our concern and recognition of their complexity have increased yet more rapidly. Growth in international attention to environmental problems after World War II, and particularly after the 1970s, reflected a combination of both greater understanding of human impacts on the environment as well as growing environmental awareness about those impacts and their interdependencies. In the 1970s and 1980s, international diplomats sought to address a growing list of distinct and separable environmental problems with neatly compartmentalized treaties addressing particular species, particular pollutants, particular rivers or lakes, or particular sources of a problem. Experience and scientific research demonstrated, however, that acid rain and heavy metal pollution cannot be resolved by tackling one pollutant at a time and that biodiversity loss cannot be resolved one species at a time without taking complex ecological and socioeconomic conditions and multiscale interactions into account (169). Both the inadequate results of prior policies and advances in scientific understanding have clarified the need for a better fit between policy and the problem being addressed (5).

Generating such a fit dictates building on improved scientific understandings of complex Earth systems, as evident in the increasing frequency with which policy makers look for insight and recommendations from scientists, the epistemic communities of which they are a part, and the global environmental assessments that they generate (78). Generating a better fit also dictates a recognition that framing environmental problems as global involves accounting for the ways those problems affect and are affected by actors, ideas, and processes of contestation at multiple spatial scales and in various jurisdictions (8, 11). The linkages between the complexity of environmental problems and the multiscale nature of environmental politics have shown up over the past two decades both in the practices of political actors and the environmental politics literature. Reports of international environmental NGOs, such as Greenpeace and World Wildlife Fund, for example, point to the close correlation between commoditized market prices and rates of deforestation, local incentives, and national institutional capacity, and these insights, in turn, motivate efforts to identify new conservation strategies that involve multiple stakeholders operating at local, national, and transnational scales. In many cases, actors mobilize politically after learning how particular environmental problems harm their economic, social, or political interests. In other cases, those concerned about problems realize that they must engage other actors who either are those whose behaviors must change or are "veto players," who will block policy progress if their interests are not taken into account.

These political realities that dictate engaging a wider range of actors across multiple scales of politics and governance have been reinforced by arguments that engaging all affected parties in participatory, democratic, and transparent processes is both effective in an empirical sense and preferable in a normative sense (180). Ignoring the localized nature and contested politics of global problems, such as water, climate, land degradation, and biodiversity, is a major pitfall of an international environmental politics literature and practice that focused almost exclusively on the nation-state as a political actor (8). Elinor Ostrom (11) has reintroduced the concept of "polycentric" governance to illuminate the challenges and opportunities related to coordinating political action and policy at the global level in ways

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that engage the incentives and knowledge of actors at other levels that are better attuned to the context-specific characteristics of human-environment interactions. In short, the rescaling of environmental politics arises from an increasingly complex understanding of increasingly complex environmental problems.

Globalization and Interconnectedness

We can explain the rescaling of global environmental politics across issue areas by references to processes of economic and cultural globalization as well as secular technological and social changes, which have influenced both the types of environmental problems we face and our understanding of those problems. Growth in international trade, capital, and investment flows has generated concern about their environmental effects and stimulated waves of political opposition to the policies and institutions that promote them. The persistence and spread of deadly civil wars across the globe and their close relationship to commodity markets and the exploitation of natural resources have renewed academic interest in the resource curse and the environment-security nexus, leading to a reconsideration of what constitute global and local threats to security and environmental sustainability and of the interplay among security, resource management, and human development (181, 182). But, rescaling across issue areas also reflects quite self-conscious political strategies to draw greater attention to environmental problems within nonenvironmental issue areas (e.g., with respect to security, trade, and development) or to couple environmental concerns to migration, the plight of indigenous people, and related social issues to ensure that the latter do not go unaddressed.

Whether in efforts to green the World Bank, to get ministries of defense to focus on environmental degradation, or to bring environmental suits before WTO dispute panels, activists have sought to frame environmental protection as empirically and normatively linked to other higher-priority concerns of governments "as a way of gaining attention from high-level decision makers and mobilizing resources" (170, p. 303, see also 165). State and nonstate actors explicitly seek to construct and frame discourses to promote understandings, perceptions, and responses that are alternatives to conventional taken-for-granted framings (102). In short, the rescaling of global environmental politics is due to greater interdependence among places, peoples, and issues but also to different groups seeking to construct the social world in ways that foster their preferred political and policy outcomes.

The incentives and ability of such actors to mobilize politically, in turn, has been fostered by the increased number and complexity of communications, interactions, and interconnections that globalization and technological change have made possible. Globalization has fostered cultural communication, often improving understandings of the linkages between global environmental problems and the protection of local resources and human rights, issues that were previously treated as separate and even in conflict (183). The thickening of global interdependence thus not only increases the scale, salience, and interconnection between global problems but also helps actors organize across borders, link causes, and apply political pressure at multiple levels (184).

Denser Institutionalization

Finally, the greater density of intergovernmental institutionalization and NGOs has itself contributed to the rescaling of politics, illustrating the interdependence between institutional context and political action. Whether referred to as interaction, interplay, overlap, cogovernance, or something else, scholars pay increasing attention to the fact that "the effectiveness of specific institutions often depends not only on their own features but also on their interactions with other institutions" (179, p. 60). Institutional interactions occur among international environmental institutions and also between these institutions and those addressing trade, security, human rights, and other nonenvironmental issues. These interactions can involve conscious efforts at coordination or organic, unrecognized, and unexpected side effects of

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independent actions by institutions. Such interactions sometimes foster the goals of the institutions involved but, at other times, undermine the efforts of some or all of those institutions. Rarely, however, do such interactions lead to the same outcomes that we would expect in their absence (5, 185–187).

Denser and closer linkages among international institutions have increased the possibilities for synergistic cross-issue linkages while highlighting the conflicts and power imbalances between institutions established to promote environmental protection and those established to promote security, trade, or intellectual property rights (5, 16). Institutional density has thus fostered the rescaling of environmental politics by creating opportunities for actors to pursue new strategies and linkages across issue areas and political scales. The campaigns against World Bank infrastructure projects linked and institutionalized multiple international norms—including biodiversity protection, human rights, and indigenous rights—contributing to substantial vertical and horizontal rescaling of politics and institutional reforms. Such combinations of vertical and horizontal rescaling are also evident in the coupling of trade and climate change issues, as in the coordinated effort by the WTO and UNEP to reframe the linkage away from protectionism and toward a more synergistic approach. The institutionalization of dispute settlement, adjudication, and expert opinion procedures within the WTO and the parallel institutionalization of the principles of precaution and multilateral action in other regimes have altered what strategies states, companies, NGOs, and judges see as the preferred and appropriate means for addressing trade and environment disputes (152, 188).

Rescaling of Scholarship

The complex, dynamic, and multilevel nature of global environmental problems partially explains why scholars of environmental politics have emphasized the contemporary relevance of nonstate actors, transnational networks, epistemic communities, and the politics linking local and global domains. The complexity and multilevel nature of global politics is more broadly recognized as a pervasive feature of globalization and the new global public domain (13, 189). At the same time, the emphasis on multiscale interactions regarding the environment reflects an earlier epistemological neglect of these dimensions and interactions. The dialogue among those studying local resources and those studying global environmental problems and institutions was a critical step in establishing common questions, epistemologies, and methods to examine the multiscale nature of environmental politics (5, 6, 10, 12, 118).

Scholars seeking to understand nonstate actors in environmental and other realms also helped focus attention on political processes beyond the state. Such studies challenged traditional conceptions of international politics by illuminating the dynamics of global civil society and contestation, transnational activism, private authority, and collaborative networks across the private and the public spheres (17, 19, 79, 83, 89, 93, 111). Finally, the development of the field of environmental studies and efforts to better address the fundamentally interdisciplinary nature of that field's primary objects of study have provided the most radical and significant contributions to the refocusing of analysis on the multiscale nature of environmental politics. The scholarly rescaling of the study of global environmental politics has developed through a process that has drawn critical insights from disciplines as diverse as law, economics, anthropology, sociology, and geography but also from biology, ecology, and integrated assessment modeling.

CONCLUSION: A NEW GLOBAL ENVIRONMENTAL PLURALISM

Global environmental politics shape the processes by which and extent to which societies deal with environmental problems. This article has explored important dynamics in environmental politics, emphasizing the increasing extent of vertical and horizontal rescaling across political arenas, actors, and issues. Rescaling along all three dimensions that we

have identified has contributed to an increasing pluralism in environmental politics, populating the global arena with a greater diversity of actors; facilitating action across boundaries to diffuse ideas, norms, and practices; and generating tighter linkages between the local and global levels of environmental problems and environmental governance. These changes have altered and will continue to alter both the practice and study of global environmental problems and global environmental governance.

The rescaling of global environmental politics is likely to foster a greater diversity of, and more innovation in, environmental policy and management. The rescaling discussed above increases contestation but also increases the exchange of ideas, practices, and strategies across different problems, localities, issues, and sectors. These processes have already contributed to the emergence and diffusion of new ideas, policies, and practices for tackling environmental problems. The rescaling of politics has also led to efforts to find better fits between the scales of problems being addressed and the solutions devised to address them. Problems are tackled in more complex and more disaggregated manners; local projects, policies, and instruments are more readily embedded and nested in a variety of networks, with linkages to more global institutions and other problems; and local lessons are now more likely to be showcased and diffused through transnational networks to the global level and to other locales and sectors.

Yet, the disaggregation of environmental politics also carries risks for political accountability and may influence the effectiveness of the governance solutions adopted. To the extent that traditional global environmental politics primarily involved interactions among nation-state governments, it tended to generate relatively rigid solutions that were slower to develop and, at times, inadequate to address the prompting environmental problem. The rescaling of global environmental politics to engage multiple actors operating at multiple levels of jurisdiction may foster quicker identification of such problems but may make identifying the sources of authority and channels of accountability for resolving these problems more difficult for citizens. The credibility of information and the relative benefits of alternative solutions for environmental protection may become more difficult to judge as the number and density of voices, organizations, instruments, and strategies proliferate. In an increasingly rescaled context, multiple, competing, and sometimes contradictory sources of information and claims of authority can coexist, and new social mechanisms for evaluating information and exercising control over various actors may become more challenging.

Thus, despite significant advances in the literature to capture the distinct dynamics of what we call the rescaling of global environmental politics, more effort is needed to understand the causes of this rescaling, the likely effects of such rescaling, and the best strategies for mitigating whatever risks such rescaling may entail. To date, the literature has identified trends and illuminated their relevance, including vertical rescaling from the global to the local (and vice versa); horizontal rescaling across regional and sectoral organizations and networks of NGOs, multinational corporations, and individuals; and cross-issue rescaling linking environmental issues to other important human concerns. Recognizing the significance of these trends creates both new demands and new opportunities to examine how such rescaling influences the processes of politics and policy formation and the accountability and effectiveness of all efforts at global environmental governance.

SUMMARY POINTS

1. Global environmental politics and governance have rescaled significantly in past 50 years.

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2. A range of actors other than nation-states (including supranational actors, subnational actors, nongovernmental actors, and multinational corporations) now engage in global environmental politics.
3. Global environmental politics are played out at many levels, with interactions occurring at the local, national, and global levels as well as across these levels.
4. Global environmental problems and governance are now recognized as having inherent and intricate connections to other nominally nonenvironmental issues.
5. The scholarly literature has increasingly recognized this expansion in what global environmental politics and governance entail.

FUTURE ISSUES

1. To what extent does the increasing complexity and interconnectedness of global environmental problems reflect changes in the nature of these problems (i.e., change in the ontology of environmental politics) and to what extent does it reflect changes in human perceptions and analysis of those problems (i.e., change in the epistemology of environmental politics)?
2. What factors explain the emergence of the different types of rescaling delineated above?
3. What other types of rescaling are emerging in global environmental politics?
4. Why has rescaling involving linkages to environmental problems occurred for some nonenvironmental problems but not others?
5. What are the likely effects of the rescaling of politics for environmental policy and governance? And what strategies are available to mitigate whatever risks rescaling may entail?

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