Encyclopedia of Global Environmental Governance and Politics

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ENCYCLOPEDIA OF
Global Environmental Governance and Politics

Edited by
Philipp H. Pattberg • Fariborz Zelli

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Global Environmental Governance and Politics

'The Encyclopedia of Global Environmental Governance and Politics *is an indispensable resource for researchers and students of global environmental governance. With balance and precision, entries by world-leading experts catalogue existing knowledge as well as offer new insights into the concepts, theories, institutions, and actors shaping core debates and issues.'*
Peter Dauvergne, University of British Columbia, Canada

'The Encyclopedia of Global Environmental Governance and Politics *provides a comprehensive starting-point for understanding the complex and contested nature of global environmental governance. Pattberg and Zelli have assembled an impressive array of contributions written by leading scholars in their fields. The superbly edited volume provides an indispensable knowledge base for understanding – and tackling – the environmental challenges of the emerging Anthropocene'*
Robert Falkner, London School of Economics and Political Science, UK and editor, *Handbook of Global Climate and Environment Policy*

'This volume offers a balanced and differentiated perspective and review of the most relevant issues, methodologies, theories and trends in the study of global environmental governance and politics. In 68 key entries leading scholars introduce, explain and discuss systematically the main concepts, the most important findings and the future outlook. An indispensable compendium for scholars, students, practitioners and libraries engaged in environmental politics and governance around the world.'
Arthur P.J. Mol, Wageningen University, the Netherlands

The *Encyclopedia of Global Environmental Governance and Politics* surveys the broad range of environmental and sustainability challenges in the emerging Anthropocene and scrutinizes available concepts, methodological tools, theories and approaches, as well as overlaps with adjunct fields of study.

This comprehensive reference work, written by some of the most eminent academics in the field, contains 68 entries on numerous aspects across 7 thematic areas, including concepts and definitions; theories and methods; actors; institutions; issue-areas; cross-cutting questions; and overlaps with non-environmental fields. With this broad approach, the volume seeks to provide a pluralistic knowledge base of the research and practice of global environmental governance and politics in times of increased complexity and contestation.

Providing its readers with a unique point of reference, as well as stimulus for further research, this *Encyclopedia* is an indispensable tool for anyone interested in the politics of the environment, particularly students, teachers and researchers.

Philipp H. Pattberg is Professor at VU University Amsterdam, the Netherlands and **Fariborz Zelli** is Associate Professor at Lund University, Sweden.

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Preface

Despite sustained efforts at all levels of governance, from the local to global, the state of the environment is deteriorating in many places of the world. In addition to 'classic' environmental problems such as local and regional air pollution and water quality, a new class of problems entered the public debate, systemic problems that undermine the functioning of planet-wide systems such as the atmosphere or biological diversity.

To capture this shift in attention, researchers are more frequently framing environmental challenges within a broader and holistic context, referring to concepts such as the earth system or the emerging Anthropocene. The term 'Anthropocene,' for instance, denotes a new geological epoch in planetary history, one that is characterized by the unprecedented impact of human activities on the earth's ecosystems. Scientists today see overwhelming evidence that the entire earth system operates well outside safe boundaries. Consequently, humanity must revise its course and embark on a deep transformation towards environmental sustainability to avoid critical tipping points that might lead to rapid and irreversible change.

The *Encyclopedia of Global Environmental Governance and Politics* surveys the broad range of environmental and sustainability challenges in the emerging Anthropocene and scrutinizes available concepts, methodological tools, theories and approaches as well as overlaps with adjunct fields of study. With this broad approach, the volume seeks to provide a pluralistic knowledge base of the research and practice of global environmental governance and politics in times of increased complexity and contestation.

The encyclopedia brings together a diverse group of experts from around the world; their 68 contributions are organized in seven parts, reflecting major debates and thematic clusters of global environmental governance and politics. Part I, Concepts and Definitions, surveys foundational as well as emerging and contested conceptualizations, ranging from *Sustainable development* and *Global environmental governance* to the idea of *Anthropocene and planetary boundaries* and *Earth system governance*. Part II reviews a range of theories and methods, including both mainstream and radical theories along with diverse research methods such as *Deliberative policy analysis*, *Quantitative comparative analysis* and *Simulations*. Part III analyzes the main actors in global environmental governance, ranging from *States* to the *Private sector*, *Civil society* and *Individuals*. Part IV scrutinizes the main institutions governing global environmental politics, from *International organizations* to international *Regimes* and *Private environmental governance* arrangements, while Part V provides a broad overview of key issue areas of global environmental governance, including widely discussed issues such as *Climate change* along with emerging topics such as *Phosphorous*. Part VI deals with cross-cutting questions and emerging topics in global environmental governance research such as *Environmental policy integration* and *Environmental policy diffusion*. Part VII finally takes into consideration the non-exclusive nature of most environmental problems and reflections on borders and interlinkages with other fields of study (for example *Food, Agriculture* and *Trade*).

Some readers may have expected additional or different entries. We are well aware that the book's structure does not address all potential theories, methods or themes in an exhaustive manner—and that such an exhaustive overview is simply not feasible. But we hope that the encyclopedia offers a balanced and differentiated perspective on the diversity of global environmental governance and practices today.

To provide a consistent and accessible format for readers with different kinds of background and previous knowledge on global environmental governance, each chapter follows the same structure: (1) key concepts and definitions, (2) key findings and (3) and a broader outlook, reflecting on the future developments, challenges and emerging research frontier. The *Encyclopedia of Global Environmental Governance and Politics* therefore serves as an indispensable starting-point for anyone interested in surveying the field in more detail. The seven thematic areas allow the reader to quickly identify important debates in and concrete approaches to the study of global environmental governance and politics. The encyclopedia can also be consulted along its alphabetical list of entries, ranging from *Agriculture* and *Air pollution* to *Wetlands* and *World society*.

This book is the result of three years of intense work, in which we have incurred many debts. Our thanks and sincere appreciation go to all our authors and reviewers for meeting tight deadlines, answering to challenging queries and adhering to intricate formal requirements. Very special thanks go to our editorial assistant, Flávia Dias Guerra, who has spent long hours checking abbreviations, formatting references and making sure everything complies with the formal guidelines. We are very grateful to Alex Pettifer at Edward Elgar Publishing for suggesting this project to us and to Victoria Nicols for assistance throughout the process.

While we believe that the *Encyclopedia of Global Environmental Governance and Politics* can become an indispensable resource for anyone interested in changing course towards a more sustainable future, we sincerely hope that it will become irrelevant as soon as possible, as this would indicate our success in achieving the sustainability transition.

We would like to acknowledge support from the Netherlands Organisation for Scientific Research (CONNECT project on 'Assessing and Reforming the Current Architecture of Global Environmental Governance') and the Swedish Research Council Formas (NAVIGOV project on 'Navigating Institutional Complexity in Global Climate Governance').

Philipp dedicates this book to his children, Aleksandra Elisa and Adam Elias. Fariborz dedicates the volume to his mother Inge and is grateful that they could celebrate her 75th birthday together.

Philipp H. Pattberg and Fariborz Zelli
Amsterdam and Lund, March 2015

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60 Institutional fragmentation

Definitions

For a working definition, I follow Biermann and his colleagues with their broad understanding of fragmentation, stating that many policy domains are marked by a 'patchwork of international institutions that are different in their character (organizations, regimes, and implicit norms), their constituencies (public and private), their spatial scope (from bilateral to global), and their [predominant] subject matter' (Biermann et al. 2009, p. 16).

The concept originated in the international legal community (e.g., ILC 2006; Koskenniemi and Leino 2002), before being adapted by international relations scholars and extended towards transnational institutions and PUBLIC–PRIVATE PARTNERSHIPS.

This established nature and interdisciplinary potential notwithstanding, the term 'fragmentation' is contested, for instance, because it may suggest a preference for order or centrality. In this chapter, however, I treat fragmentation as unbiased with regard to any favored institutional setting: the concept neither implies a preference for a state of universal institutional order nor does it suggest that fragmentation is a negative quality.

When it comes to conceptual diversity, for instance, one may stick to a parsimonious or formal framing that defines the shape of fragmentation according to the number of institutions and the legal coherence among them. Alternatively, one may start from a richer relational concept that incorporates behavioral impacts of fragmentation, or underlying cognitive and discursive structures (see also CONSTRUCTIVISM AND SOCIOLOGICAL INSTITUTIONALISM; GOVERNMENTALITY; NEO-GRAMSCIANISM; WORLD SOCIETY). Their different conceptual choices notwithstanding, most authors agree that institutional fragmentation is an inherent structural characteristic of international relations today. There is no policy domain where all relevant provisions are placed under, or legally linked to, a single institutional umbrella with universal membership (Biermann et al. 2009; Orsini et al. 2013).

Environmental domains are a particular case in point: due to their complex and

crosscutting nature, they often overlap with the subject matters and jurisdictions of institutions from various other issue areas (see also ENVIRONMENT AND NATURE; GLOBAL ENVIRONMENTAL GOVERNANCE; AGRICULTURE; FOOD; HEALTH; POVERTY; SECURITY; TRADE). To take an illustration, the global climate governance architecture is not only made up of those institutional arrangements that predominantly address CLIMATE CHANGE, i.e., the United Nations (UN) climate regime and several new multilateral clean technology partnerships. In addition, it includes a large number of further institutions whose agendas have been increasingly touching upon the issue—institutions as diverse as the BIODIVERSITY and OZONE regimes, the World Trade Organization (WTO), the UN Security Council, or the Group of 20 (G20) (Biermann et al. 2009; Keohane and Victor 2011; Zelli 2011a; see also CLUBS; SECURITY; TRADE; UNITED NATIONS).

Fragmentation, thus, is a matter of degree and may vary considerably across issue areas, spanning a continuum from domains with relatively low levels of fragmentation to highly intricate institutional complexes. Among other factors, the degree of fragmentation depends on the delineation and the very framing of the domain or problem structure in question (Biermann et al. 2009, pp. 19–21). The broader an environmental domain under scrutiny—for example, climate change as a whole as opposed to a subissue such as carbon trading—the more likely it touches upon more environmental and non-environmental spheres and the associated institutions.

In light of its broad defining features, fragmentation is related to several other concepts that seek to enhance our understanding about the growing institutional complexity in international relations. Given these strong conceptual overlaps, I will also consider findings from these other literatures in this chapter. The first one that deserves mentioning here is institutional interlinkages or interplay. Similar to studies on fragmentation, much of the literature on interlinkages has dedicated particular attention to environmental issue areas (e.g., Chambers 1998, 2008; Oberthür and Gehring 2006; Oberthür and Stokke 2011; Selin and VanDeveer 2003; Young 1996, 2002). Interlinkages and fragmentation differ in terms of their level of analysis: the former refer to overlaps between two or more institutions over specific issues, while the latter relates to the complexity of a whole policy domain.

Distinctions become more difficult—and partly impractical—with regard to other concepts that share with fragmentation the overarching level of analysis in a given issue area. This is particularly the case for the emerging literature on governance experiments (Hoffmann 2011), polyarchic or polycentric governance (Ostrom 2010) and on regime complexes (Orsini et al. 2013; Raustiala and Victor 2004). Regime complexes—or: institutional complexes, as I would prefer calling them to account for the more generic nature of the term 'institutions'—are defined in a rather additive manner as 'loosely coupled set[s] of specific regimes' (Keohane and Victor 2011, p. 7; cf. Alter and Meunier 2009). In this sense, a regime complex is akin to what other authors have termed as 'governance architecture' (Biermann et al. 2009).

Key findings

Mappings of fragmentation

The early days of interlinkages and fragmentation scholarship were marked by a series of mappings and typologies (cf. Selin and VanDeveer 2003, p. 14). Based on three

criteria—the level of institutional integration; the extent to which core norms conflict; and the constellation of actors—Biermann et al. (2009) differentiate between 'synergistic fragmentation,' 'cooperative fragmentation' and 'conflictive fragmentation.' Synergistic fragmentation, which can, for instance, mark the issue area of ozone layer depletion, refers to a global governance architecture in which almost all countries participate in the core institution in an issue area, and where this institution 'provides for effective and detailed general principles that regulate the policies in distinct yet substantially integrated institutional arrangements' (Biermann et al. 2009, p. 20). There is cooperative fragmentation when there are only loosely integrated institutions and decision-making procedures, when the relationship between norms and principles of these different institutions is ambiguous, and/or when not all major countries participate in the core institution. Global climate governance would be an example for this type of fragmentation. Finally, Biermann and colleagues argue that conflictive fragmentation occurs when the institutions in a given architecture are hardly connected or have very different decision-making procedures, when the principles, norms and rules are conflicting and when the memberships of the institutions overlap in such a way that different actor coalitions accept or advance these conflicts. One example for conflictive fragmentation is the institutional architecture on plant genetic resources (Biermann et al. 2009, p. 20).

Keohane and Victor (2011) offer a similar distinction in their analysis of the regime complex for climate change. They argue that there are on the one end 'fully integrated institutions that impose regulation through comprehensive, hierarchical rules' and on the other there are 'highly fragmented collections of institutions with no identifiable core and weak or nonexistent linkages between regime elements' (Keohane and Victor 2011, p. 8). Sitting in between is 'a wide range that includes nested (semi-hierarchical) regimes with identifiable cores and non-hierarchical but loosely coupled systems of institutions' (Keohane and Victor 2011, p. 8).

While these two influential typologies use rather similar criteria, recent studies employed a broader variety of mapping categories. For instance, Zürn and Faude (2013) distinguish levels of segmentary, stratificatory and functional differentiation. Other scholars have started to apply network approaches to identify levels of institutional centrality and density for fields such as FISHERIES and CLIMATE CHANGE (Hollway 2013; Kim and Mackey 2013; Widerberg 2014).

Explanations of fragmentation

Keohane and Victor (2011) seek to explain the regime complex on climate change in functional, strategic and organizational terms: from a functional standpoint, they hold that the diversity of institutions mirrors the complexity of specific problems involved in regulating such a complex issue as climate change. Strategically, smaller institutional arrangements are oftentimes more suitable and effective for some actors to realize their interests. And from an organizational point of view, the fragmentation of the global climate change architecture rest on path-dependence and timing. Still, Keohane and Victor's three explanations do not provide substantiated theoretical guidance, but remain at the level of causal pathways (see also the 'Outlook' section below).

Other approaches seek to address this theoretical research gap by adopting different strands of institutionalism more profoundly to the study of institutional complexity. Many of these build on earlier explanatory frameworks that had been developed for the

study of institutional interlinkages; for example, Oberthür and Gehring (2006), Rosendal (2001), Stokke (2001). Stokke (2012), for instance, further develops his own explanatory framework for complex institutional constellations, distinguishing behavioral, regulatory and cognitional components of the respective governance problem.

Drawing on Keohane's earlier work on NEOLIBERAL INSTITUTIONALISM, Van de Graaf (2013) develops a theoretically elaborate approach for his analysis of the creation of a new institution in an already fragmented institutional environment: the International Renewable Energy Agency (IRENA). He explains how domestic preferences may lead to an institutional hedging strategy, whereby states deliberately pursue the creation of overlapping institutions (see also RENEWABLE ENERGY). Zelli (2011b) developed a theoretical framework to examine tenets of neorealism and cognitivism, and applied it to overlaps between the global climate and trade regimes. He found that, thanks to the backing of the more powerful coalition of countries, the WTO prevailed in these overlaps, being the arena that produced the dominant legal output on issues like intellectual property rights or border carbon adjustments (Zelli 2010; see also TRADE).

Orsini and colleagues (2013) revisit power-based explanations. They find that institutional fragmentation may qualify former theoretical claims that only powerful actors may influence complexes. Instead, such complexes may also open participatory opportunities for less powerful actors—and ultimately shift the constellation of power in a given environmental domain.

Scholars also refer to critical and discursive theories. Zelli et al. (2013) argue that institutional complexes are embedded in overarching norms that shape their evolution and impact. Building on the theory of liberal environmentalism (Bernstein 2002; see also LIBERAL ENVIRONMENTALISM AND GOVERNANCE NORMS), they hold that the development of institutional architectures on biological diversity, BIOSAFETY, FORESTRY and CLIMATE CHANGE can partly be explained by dominance of global norms promoting economic efficiency and environmental improvements through market-based mechanisms.

Finally, authors such as Faude, Gehring and Zürn build their arguments on functionalist approaches and sociological differentiation theory. Gehring and Faude (2013) suggest that institutional complexes may produce new functional divisions of labor among elemental institutions. They argue that fragmentation with its various institutional choices provides forum-shopping opportunities for actors (Raustiala and Victor 2004), thereby creating competition among institutions that may lead to optimization in goal attainment. In a similar vein, Zürn and Faude (2013) conclude that it is not fragmentation as such that needs addressing as a potentially dysfunctional constellation, but the coordination gaps of fragmented or differentiated institutional architectures.

Effects of fragmentation

A large part of the literature has focused on possible consequences of fragmentation for aspects like cooperation patterns, effectiveness or legitimacy. Drawing on a broad review of different literatures, Biermann et al. (2009) list potential benefits of fragmentation: the provision of further institutional platforms to include a variety of actors and stakeholders (e.g., laggards, vulnerable actors); possibilities to circumvent stalemates or to give new impulses to stalled negotiations, as climate-related decisions of the Group of 8 + 5 (G8+5) meetings have done for UN climate summits; more options for side-payments,

issue-linkages and package deals. As potential drawbacks they identify: new legitimacy gaps, especially due to the evolution of smaller, exclusive clubs and the weakening of universal institutions; coordination gaps between overlapping institutions; regulatory uncertainty, if institutions exhibit different rules and conditions (e.g., for the allocation of funds or for the functioning of carbon markets); and the possibility of forum-shopping that may lead to a regulatory race to the bottom.

Alter and Meunier (2009) identify different types of mechanisms through which institutional complexity may influence the politics of international cooperation. They argue that regime complexity enables 'chessboard politics' in which actors pursue cross-institutional strategies to maximize their interests. Moreover, complexity forces bounded rationality logics on actors, creating 'a heightened role for informers—experts, lawyers, and non-governmental organizations (NGOs)—which help states manage rule and institutional confusion' (Alter and Meunier 2009, p. 18). Finally, institutional complexity may create more small group environments by multiplying the number of competing international venues, 'and thus the occasions for states representatives to interact' (Alter and Meunier 2009, p. 19).

As one result of their large comparative case analysis, Oberthür and Gehring (2006) stress the high numbers of co-existent and synergistic relations they found between institutions. Other studies, in turn, geared their specific case studies towards conflictive constellations. For instance, several scholars found that the creation of the now-defunct Asia-Pacific Partnership on Clean Development and Climate undermined the UN Framework Convention on Climate Change (UNFCCC) process; for example, by providing avoiding a non-binding alternative that circumvents the principle of common but differentiated responsibilities (Karlsson-Vinkhuyzen and van Asselt 2009; McGee and Taplin 2006).

It is particularly international lawyers who, often earlier than their international relations colleagues, put conflictive overlaps among international regimes under scrutiny—particularly, but not limited to, overlaps between WTO law and multilateral environmental agreements (just to name a few: Brewer 2003; Pauwelyn 2003; Young 2013). Van Asselt (2012, 2014) continued this tradition by examining, inter alia, interactions between the REGIMES on CLIMATE CHANGE, BIOLOGICAL DIVERSITY, clean technologies and TRADE. He finds that whether fragmentation leads to institutional conflicts or synergies 'depends on factors that are seemingly under the control of actors participating in the interaction regimes' (van Asselt 2014, p. 248); for example, taking proactive steps towards coordination or deciding on suitable economic incentives to meet cross-institutional objectives.

Yet other studies focused on the consequences that institutional fragmentation may have for questions of inclusiveness and legitimacy. Karlsson-Vinkhuyzen and McGee (2013) draw on tenets from the English School and social constructivism to examine gaps in the legitimacy of 'minilateral' forums and public–private arrangements. They show that, despite these gaps, the support from powerful countries allows these forums to exert a significant impact on global climate negotiations. Orsini (2013) discusses agency in two fragmented institutional settings (forestry and access to genetic resources). Using network analysis and new datasets in combination with qualitative methods, she shows that non-state actors with the capacity to participate in various institutions may significantly enhance their organizational power. She further finds

that such actors use their power for strategic forum-shopping, as well as for integrative attempts of forum linking.

Management of fragmentation

In their edited volume on managing institutional complexity, Oberthür and Stokke (2011) identified first empirical findings on this research theme. Among these results is a comprehensive typology on interplay management by Sebastian Oberthür. He distinguishes four levels of management: efforts made by overarching institutions; joint management by affected institutions; unilateral management by individual institutions; and autonomous management by individual state governments (Oberthür 2009). He further differentiates modes of management: regulatory (based on standards of behavior) and enabling (based on the allocation of information, knowledge and other resources). Oberthür (2009) stresses the need to fit these modes and levels of management to the particular governance conditions of institutional complexes. Altogether, he finds that, unlike unilateral management attempts, joint management initiatives or even a strengthened international environmental organization have a much more limited potential to manage institutional complexity.

Another key finding is that management approaches are confronted with a considerable stability or equilibrium of institutional complexes due to interest- and power-based path dependencies and high transaction costs. Oberthür and Pożarowska (2013), building on core explanatory variables of international relations theories, find such an equilibrium for the domain of access to, and benefit-sharing from, genetic resources, further stabilized by the adoption of the Nagoya Protocol (see also BIOSAFETY AND GENETICALLY MODIFIED ORGANISMS).

In light of these challenges, authors have increasingly moved away from ambitious suggestions such as the creation of a World Environment Organization (Biermann and Bauer 2005). One new and influential approach, suggested by Abbott and Snidal (2010), is ORCHESTRATION, i.e. the idea that an international organization manages the operation of other institutions towards common goals. Building on this idea, van Asselt and Zelli (2013) illustrate how the UNFCCC could serve as an orchestrator for carbon markets, and climate technology initiatives.

Humrich (2013) equally comes to pragmatic conclusions when critically analyzing two different forms of responses that have been proposed to manage the institutional fragmentation in the ARCTIC: a grand proposal of an overarching legal framework, and a more modest attempt to coordinate the existing institutions. He argues that the latter is more feasible and desirable, underlining the inherent limitations to ambitious top-down responses to institutional fragmentation for this case.

Outlook

The body of literature on institutional fragmentation and interlinkages has become quite extensive over the past 10–15 years, especially in global environmental governance research. This common ground and the merits of existing scholarly approaches notwithstanding, there are still major new conceptual, theoretical and empirical grounds to be explored.

Conceptually, the literature could further go beyond additive accounts that are underspecified with regard to the quality of relations among various components of an

institutional complex. Instead, more multi-criteria sets should be developed to assess and compare different degrees of fragmentation across environmental issue areas. Moreover, new methodical ground can be broken following the pioneering examples of different network approaches and mappings (Hollway 2013; Kim and Mackey 2013; Widerberg 2014).

Similarly, more can be done to root the study of institutional fragmentation and interlinkages theoretically (Young 2008, p. 134). What Underdal (2006, p. 9) observed nearly ten years ago for research on interlinkages also goes for fragmentation research today: the focus of explanatory approaches has been so far 'primarily on interaction at the level of specific regimes and less on links to the kind of basic ordering principles or norms highlighted in realist and sociological analyses of institutions.' Indeed, some the most influential approaches in the literature on institutional complexity suffice with basic ideas about causal pathways while falling short of more fundamental theoretical approaches that relate to concepts of power, interests, knowledge, norms or other scope conditions (e.g., Keohane and Victor 2011).

Moreover, many studies still attend to the normative question whether a centralized or a polycentric global governance architecture is preferable (Biermann et al. 2009; Ostrom 2010; Keohane and Victor 2011). This entangling of analytical and normative claims may have partly stood in the way of the development and application of more fundamental theoretical frameworks. In fact, most systematic studies so far have concentrated on dyadic interlinkages, while holistic analysis of sets of interactions in a larger fragmented architecture are still lacking.

As Zelli and van Asselt (2013) argue in the introductory article to a special issue on the institutional fragmentation of global environmental governance, causal explanations would not need to reinvent the wheel but could in part be derived from different strands of institutionalism and cooperation theory. This 'institutionalism revisited' could develop and examine assumptions that link the degree of fragmentation in a given issue area of environmental governance to, for instance: the constellation of power, drawing on neorealist perspectives (Benvenisti and Downs 2007); situation structures and constellations of interests, based on Neoliberal institutionalism (Rittberger and Zürn 1990; Van de Graaf 2013); major qualities of the issue area (e.g., the global or local nature of a good; the level of scientific certainty) and the question of institutional fit (Young 2002); conflicts among core norms or the contestation of discourses (Zelli et al. 2013; see also Liberal environmentalism).

Finally, a whole set of empirical themes merits attention of future single case studies or comparative analyses across environmental domains, for example: the interactions between transnational institutions and public institutions (Abbott 2014); the consequences of fragmentation for different types of non-state actors, including further in-depth studies about the legitimacy, accountability and inclusiveness of complex governance architectures (Karlsson-Vinkhuyzen and McGee 2013; Orsini 2013); the impact of fragmentation on the overall Effectiveness of a global governance architecture, by both Qualitative comparative analysis and Quantitative comparative analysis; for example, by adopting counterfactual approaches to an entire institutional complex (Hovi et al. 2003; Stokke 2012); the suitability and effectiveness of specific management attempts such as Orchestration (Abbott and Snidal 2010); the stability or fragility of institutional complexes, including the question whether they move towards a (new)

division of labor (Gehring and Faude 2013) or rather towards new types of positional differences and conflicts (Zelli 2011b).

Fariborz Zelli

List of acronyms

G20	Group of 20
G8+5	Group of 8 + 5
IRENA	International Renewable Energy Agency
NGO	non-governmental organization
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

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61 Millennium development goals and sustainable development goals

Definitions

The Millennium Development Goals (MDGs), as a global agreement to reduce poverty and to improve human livelihoods, should have been met by 2015; the Sustainable Development Goals (SDGs) are likely to follow them as future goals, being a central part of a broader United Nations (UN) post-2015 development agenda.

The MDGs define—mostly by indicators, base year and target year—what development progress the international community aspired to achieve by 2015. The eight goals with 21 targets and 90 indicators cover a wide array of issues. Their main focus is on eradicating extreme POVERTY and hunger, as formulated in MDG1. MDG1 is also very relevant to environmental governance because—as Indira Gandhi stated at the first UN Conference on the Human Environment (UNCHE) in Stockholm 1972—poverty is the biggest polluter. At the same time, environmental threats such as CLIMATE CHANGE undermine development efforts and affect the poor first. Well-defined policies for environmental protection could support poverty reduction, while the lack thereof may exacerbate poverty. Three of the MDGs deal with HEALTH issues, i.e., reducing child mortality (MDG4), improving maternal health (MDG5) and combating the human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS), malaria and other diseases (MDG6). One goal focuses explicitly on environmental sustainability (MDG7) (see Table 61.1).

MDG8 calls for a global partnership for development, including more effective official development assistance, fairer TRADE rules and better market access, more sustainable debt relief and better access to essential drugs as well as new information and communication technologies. MDG8 stands out as its focus is on means (instead of ends) and it is the only goal that includes targets for industrialized countries.

The outcome document of the Rio+20 or the United Nations Conference on Sustainable Development (UNCSD), which was adopted at the end of June 2012, proposes developing a set of SDGs. During 2014, this new set of goals has been negotiated