

Sustainable Development Diplomacy: Diagnostics for the Negotiation and Implementation of Sustainable Development

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Abstract

Achieving sustainable development and meeting the UN Sustainable Development Goals requires that there be an effective process of negotiating and implementing sustainable development policies and practices. This paper characterizes an evolving approach that we define as sustainable development diplomacy. Based on an analysis of the history of climate governance as a case study of sustainable development diplomacy and drawing on a diverse range of literatures including international negotiations, global environmental governance, and socio-ecological systems, it identifies seven diagnostics that can be used to evaluate the negotiation and implementation of sustainable development goals. We argue for a needs-based approach that brings together diverse stakeholders to devise flexible solutions that fit the complexity and scale of sustainable development challenges. We illustrate the diagnostic elements with examples from our case study of climate change, as one of the major global sustainable development challenges, but the diagnostics have wider applicability to sustainable development diplomacy and practice more generally.

Policy Implications

- Policies designed to implement sustainable development must address underlying causes rather than treating symptoms.
- Policies are more likely to be implemented if they incorporate mutual benefits for all parties and create a sense of ownership through engagement of diverse stakeholders.
- Policies that successfully implement sustainable development goals should incorporate all three dimensions of sustainable development: society, environment and economy.
- Policies must have effective implementation and follow-up provisions that set a course for action, but are sufficiently flexible to incorporate new information and conditions.

Introduction

With the adoption of the Sustainable Development Goals (SDGs), the international community demonstrated its renewed global commitment to sustainable development and clarified the ambitious vision for the wide range of goals to be achieved under this framework. International agreement on a set of SDGs was a significant diplomatic achievement in its own right, but implementation is an even greater challenge. The adoption of the SDGs was not accompanied by a comprehensive plan for how to negotiate their specific applications or how to implement them. Meeting the SDGs will require multiple agreements regarding implementation policies, strategies and actions at all scales from international to local, and across sectors of society and the economy. For this reason, we utilize the term

'sustainable development diplomacy' (SDD) to encompass the process of negotiating and implementing the SDGs at all scales, and identify seven diagnostics to facilitate this process.

The process of implementing sustainable development requires a governance system that can match the ambition and complexity of the goals. One of the greatest challenges for sustainable development governance is the complexity of the issues and the evolving diplomatic processes required to address the linkages across issue areas, scales and actors (Biermann and Pattberg, 2008; Falkner, 2013). The locus of authority no longer rests solely with nation-states based on the Westphalian notion of sovereignty (Cerny, 2010; Rosenau, 2004). A variety of additional non-state actors are able to command authority based on the governance and implementation functions they exercise. Another challenge is that

socio-ecological systems necessitate the management of human and ecological aspects in an integrated manner (Dietz et al., 2003, Folke et al., 2005, Pahl-Wostl, 2009). With the identification of diagnostic elements for the negotiation and implementation of sustainable development, this paper explores potential strategies for improving sustainable development governance in light of these challenges.

Methodology

This paper utilized a case study methodology, coupled with a literature review, to explore the theoretical and practical challenges to sustainable development governance and approaches for overcoming these barriers. Through a detailed analysis of climate governance, as perhaps the most prominent case of diplomatic efforts in sustainable development, we identify processes that have successfully achieved some of the goals of sustainable development, and synthesize them into a set of diagnostic elements. The seven diagnostic elements were developed through an analysis of the history and practice of climate governance (including both the formal diplomatic negotiations and informal actions at all scales), as well as complementary literatures on mutual gains negotiations and socio-ecological systems. In addition to a review and synthesis of the literature, we also drew on a five-year series of invited lectures from leading climate governance practitioners who presented specific aspects of sustainable development diplomacy and provided their insights to the diagnostic elements presented here. Preliminary versions of the diagnostics presented here were used to structure empirical case studies on a wide range of issues related to sustainable development by graduate students. The cases addressed one or more of the diagnostic elements in detail in a wide range of contexts including developed and developing countries, public and private sectors, and across the three dimensions of sustainable development. These 125 case studies provided the authors with the empirical support to refine the diagnostics in an iterative manner. Finally, the authors are themselves actively engaged in climate governance and their own experiences helped to inform the analysis.

Theoretical background

Traditional forms of diplomacy will continue to play an important role in sustainable development, but we propose the concept of sustainable development diplomacy to capture improved approaches to sustainable development governance. A commonly cited definition of diplomacy is the following: 'the peaceful conduct of relations amongst political entities, their principals and accredited agents' (Hamilton and Langhorne, 2011, p. 1). This form of diplomacy evolved to resolve interstate conflicts, define boundaries, deal with shared water bodies, and regulate trade between and among nations, but these issues are different from the sustainable development challenges we face today (Biermann and Pattberg, 2012; Chasek and Wagner, 2012). In spite of these differences, environmental treaties have displayed a

tendency to maintain the structure and goals of traditional diplomacy that is defensive in nature, protecting sovereignty, economic interests, and territoriality (Moomaw, 2013). Even as the structures of traditional diplomacy remain in place, new forms of governance and innovative approaches have emerged and are being utilized to advance sustainable development. One of the best characterizations of this contrast is the mismatch between the formal diplomatic processes in the United Nations Framework Convention on Climate Change (UNFCCC) and the emerging realities of climate governance, an issue explored in detail throughout this paper (Barrett, 2008; Barrett and Toman, 2010; Bulkeley et al., 2014; Dimitrov, 2010; Victor, 2011; Walker et al., 2009). Sustainable development diplomacy builds on but significantly advances the traditional understanding of diplomacy whereby agreements are negotiated to advance mutual benefit.

Sustainable development diplomacy applies the principle of diplomacy, where agreements are negotiated to advance common agendas, but is marked by several important shifts, both in the substantive content of what is negotiated and its practice or means of conduct. First, SDD includes a broader conceptualization of the actors involved in diplomacy. Governance of sustainable development outcomes can emerge without the explicit consent of state authorities (unlike traditional diplomacy in the Hamilton and Langhorne definition). Second, SDD is not understood as simply the adoption of an agreement but incorporates all phases of the negotiation and implementation of policies and programs. Third, in terms of substantive content, we utilize the definition of sustainable development provided by the Brundtland report as the foundation for our analysis.¹ Sustainable development is 'development which meets the needs of current generations without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987). In other words, it is a development process that can endure into the indefinite future to meet societal needs, maintain an effective economic system that manages the exchange of goods and services and an environment that can continue to supply essential resources and other ecosystem services.

Sustainable development diplomacy is a process that a wide variety of actors can use in their efforts to pursue sustainability goals. Therefore, we focus on actors and what they can do to steer society towards sustainable development. Most of the studies that focus on social-ecological systems are structural in nature. They identify system properties, how these properties change, and identify what these changing properties mean for actors operating within those systems (Feola, 2015). We adopt the vantage point of the actors in the system but remain keenly aware of the opportunities and constraints afforded by the parameters of social-ecological systems. In line with theoretical perspectives such as neopluralism in world politics that adopt a broad conception of power and resources, we also view non-state actors as empowered agents of change. As a result, actors in our formulation go far beyond the state-

centric conceptions that are the norm in international relations.

We bring together two distinct strands of literature. First, we build on the work of mutual gains negotiations (Fisher et al., 2011). The key thrust of the mutual gains approach is to shift from positions adopted by parties to a focus on identification of their interests, and to the extent possible, incorporation of those interests into agreements and their implementation. Enabling this shift in perspective is the centrality of needs. While the mutual gains literature is resolutely focused on *human* needs, by adopting sustainable development as our organizing paradigm, we extend the concept to include *ecological* needs.

Second, we engage the literature on social-ecological systems. In their diplomatic efforts, actors have to act within the constraints of social-ecological systems. However, unlike some strands of the literature that emphasize the functional aspects of such systems, we take a dynamic approach to the opportunities and constraints faced by actors in social-ecological systems and build on the prior work on adaptive cycles (Gunderson and Holling, 2002) and transformative agency – a notion of agency that is in tune with phases of the adaptive cycle (Westley et al., 2013).

Diagnosics for sustainable development diplomacy

In this section we present seven elements that contribute to the practice of SDD illustrated by our analysis of climate change negotiation and implementation as a case study. These can serve as diagnostics for the use of a SDD approach as compared to alternative means of negotiating and implementing sustainable development goals.² The diagnostics emphasize approaches to the negotiation and implementation of sustainable development policies, programs and strategies at multiple different scales, from the international to the local. We argue that if these diagnostic elements are utilized, the likelihood of achieving the SDGs will be greatly enhanced, and development will become more sustainable. The first five diagnostics are primarily targeted to the negotiation process, which can include both formal diplomatic negotiations as well as informal negotiations among different actors. The final two diagnostics are focused on the implementation of agreements.

With each of the SDD diagnostics we demonstrate their application to SDG 13, Climate Action. Climate negotiations that led to the adoption of the Paris Agreement on climate change reflect the diagnostics we discuss in this article. We also discuss how the diagnostics can support implementation of the Paris Agreement. In the process of addressing Climate Action, utilizing SDD diagnostics simultaneously addresses Clean Water and Sanitation (Goal 6), Affordable and Clean Energy (Goal 7), Life on Land (Biodiversity) (Goal 15) and Partnerships (Goal 17). At the same time, the goals of Climate Action can also be enhanced via Affordable and Clean Energy (Goal 7), Industry, Innovation and Infrastructure (Goal 9), and Responsible Consumption and Production (Goal 12), demonstrating the applicability of our case study

for the SDGs and the synergies and interlinkages across the various dimensions of sustainable development.

Diagnostic 1: reframed issues into a sustainable development context instead of framing them as environmental, social or economic problems

Most environmental, social and economic problems are actually symptoms of underlying unsustainable practices and issues. Human and ecological needs are deeply connected, and must be addressed in a coordinated manner. Focusing on the ecological dimension alone, such as a biogeophysical approach that has identified 'planetary boundaries', is necessary but not sufficient (Rockström et al., 2009, 2013). It is also important to integrate the linkages between human and ecological needs.

A focus on identification and prioritization of needs is a more integrative way to arrive at sustainable development solutions, and sustainable development 'problems' can often be understood as unmet needs. The underlying cause of social, environmental and economic problems is often associated with *unsustainable practices*, which arise because neither human (societal/economic) nor ecological needs have been met. In this way, sustainable development diplomacy diverges from much of the existing approaches to environmental policy, which has historically been focused on identification of problems as its starting point. For example, Moomaw and Papa (2012) argue that one of the primary reasons the climate negotiations have had limited success in the past is because climate change is viewed as a pollution problem, rather than recognizing that emissions are really the symptom of an underlying pattern of unsustainable development (Moomaw and Papa, 2012). By framing climate change as a pollution issue, parties negotiate how much of a burden they are willing to bear, an approach that sets limits on development, rather than creating sustainable development opportunities that are able to be shared. By re-framing an emissions problem as unmet development needs and identifying associated co-benefits such as enduring access to renewable energy and improved health, energy services can be provided with fewer greenhouse gas emissions, and the damage of severe climate change avoided.

This approach was utilized to some extent in the Paris climate negotiation process in 2015. Instead of negotiating zero-sum targets at the global level (as was the approach for the Kyoto Protocol), governments were invited to offer their Intended Nationally Determined Contributions (INDCs). Utilizing INDCs allowed governments the flexibility to identify actions beyond the conventional greenhouse gas emissions reduction targets. Certainly all were aware of the agreed-upon goal of keeping global average temperature rise below 2°C, but this approach allowed parties to put forth their socially and economically achievable development objectives rather than necessarily identifying their environmental emission reductions. For example, many developing countries included targets to expand clean energy services. In other words, each government put forward what was acceptable politically and economically to them. The result is a comprehensive

international architecture to address climate change that brings together 195 nations and the European Union with the ambition of avoiding an increase in global average temperature greater than 1.5–2°C.

Similarly, the pursuit of clean energy services represents a mutual gains approach that expands access to energy with little climate impact while avoiding the gridlock of target setting exercises for greenhouse gas emissions. A new organization, Sustainable Energy for All (SE4All) was created as a collaborative enterprise between the UN and the World Bank to advance clean and affordable energy services in developing countries and supports the implementation of SDG 7, Affordable and Clean Energy.

Diagnostic 2: utilized mutual gains negotiation techniques to benefit as many state and non-state parties as possible while effectively addressing the issue of concern

It is almost a truism that if agreements meet the needs and interests of all parties (mutual gains), they become nearly self-enforcing since it is in the interest of all parties to meet their obligations. A treaty that requires heavy investment in enforcement is far less likely to have compliance (Susskind 1994). Mutual gains negotiations form the center of sustainable development diplomacy because it is an approach that recognizes the opportunities for solutions based on the needs of each party. As Fisher et al. (2011) have argued, there are interests behind positions and these interests reflect fundamental and basic needs. Meeting these needs is critical for achieving an effective agreement. By focusing on interests, parties are able to invent new options in ways positional bargaining does not permit. This allows more parties to increase value (the size of the pie) and make the agreement more effective by avoiding a lowest common denominator compromise (Fisher et al., 2011). For example, it becomes more acceptable to more stakeholders to reframe natural resource management from achieving an environmental goal to a strategy to increase farmers' resilience to drought, or to reduce household energy costs. This engages a broader range of parties and interests (Lin, 2011; Mimura et al., 2014).

In the Paris negotiation process, the sheer diversity of countries involved meant that different interests were present. For the Paris Agreement to be sustainable, this diagnostic would imply that the concerns of all parties be reflected in the agreement. While most governments supported a 2°C limit on future global temperature rise, Small Island States, facing the prospect of devastating sea level rise, insisted on no more than a 1.5°C increase in global average temperature. To get unanimous agreement, all nations agreed to the lower limit as a goal, but not as a commitment. The imminent dangers of uncontrolled climate change also lent force to arguments for universal participation, thereby bringing on board developing countries. Similarly, when governments negotiated international efforts on Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries (REDD-plus), indigenous groups,

fearing that their interests would not be well represented by national governments, teamed up with NGOs and like-minded governments to gain protection of the significant amount of forest in their reserves while helping to meet larger goals. As a result, the provisions on REDD-plus contain safeguards and standards that protect interests of indigenous peoples such as access and prior information.

Diagnostic 3: engaged multiple state and non-state stakeholders

Engaging stakeholders that have interests in the issue being negotiated is essential to ensure that their needs and interests are known, that they can contribute their direct knowledge of the issue and that they can learn of the needs of other stakeholders. Participation is also essential for any resulting agreement to be credible, and must continue into the implementation phase (Susskind 1994). In short, the process of SDD must lead to agreements that endure for as long as necessary to assure a future sustainable trajectory. Intergovernmental cooperation alone as the basis for addressing sustainable development is insufficient. Engaging the appropriate stakeholders at the most effective level is also important as described in Diagnostic 6.

Broad engagement is critical to successful diplomacy for several reasons. First, the structural forces of globalization, understood to include economic, political and social processes, has allowed new actors, including transnational corporations and civil society organizations, to rise in influence, fundamentally shifting the system and its dynamics (Slaughter, 2009; Young et al., 2006). Using their resources, expertise, and the confidence of the public at large, corporations engage in functions of international governance, an activity traditionally confined to national governments and intergovernmental bodies.

Second, the nature of problems that need international cooperation is changing. Environmental issues do not remain within state boundaries. While this means that states need to be increasingly involved in environmental issues, given the nature of sustainable development and the forces of globalization, there is also a possibility for many non-state actors to participate in this process. For example, requiring that supply chain suppliers also meet the low greenhouse gas emissions and labor practices of a supplier firm is more effectively accomplished by a readily enforceable long-term contract rather than a difficult to implement treaty (Moomaw and Unruh 1997).

Third, the growth of new, non-state actors can be seen as incubators that test new approaches to problem solving (Gunderson 1999; Olsson et al., 2006). These new, less formal networks also help to address gaps in knowledge, allow information flows to take place in the network, and increase expertise in the 'nodes'.

Fourth, state actors and intergovernmental organizations are increasingly delegating governance functions to the private sector and social change organizations (Abbott and Bernstein, 2015; Hawkins et al., 2006). Formal delegation through contracts exists alongside less formal partnerships

and patterns of authority. The rise of non-state actors engages them in both direct and indirect governance.

Non-state actors can complement intergovernmental efforts. The need for type-two agreements between governments and non-state actors was recognized and called for at the World Summit on Sustainable Development in 2002 (WSSD) and again at Rio Plus 20 in 2012. Such partnerships are becoming increasingly common. Similarly, many initiatives were launched at the Financing for Development summit in Addis Ababa, in July 2015.

The nation-state and intergovernmental organizations continue to play a significant role in sustainable development diplomacy by identifying an aspirational direction to which a large group of governments subscribe, such as the SDGs, as well as by negotiating and implementing enduring agreements that set rules and guidelines for meeting those goals. While the exact nature of the changing role of non-state actors in world politics is debated, as Finger and Svarin (2012, p. 286) have phrased it, 'the question is not whether these non-state actors deserve a place in the GEG (global environmental governance) framework but rather how to integrate them and make the best use of them'.

The Paris Agreement is an agreement among governments. Some governments made additional commitments including Norway's pledge of several billion dollars from the Climate and Forest Fund to assist developing countries in meeting their forest protection goals, but additional commitments for substantial actions by subnational governments and corporations were also made on the sidelines of Paris. For example, Bill Gates, along with a group of wealthy individuals, announced a \$2 billion commitment to support innovations that can effectively address climate change. This announcement was complemented by a group of 20 nations that committed to doubling their domestic renewable energy. Two NGOs, The Climate Group and Carbon Disclosure Project, announced that 200 corporations, states, cities and regions committed to full decarbonization of their energy use, which goes above and beyond the emission reductions promised by their respective national governments. Another initiative, described in 'Unlocking Ambition', included commitments to 100 per cent renewable energy from 52 firms and 44 regions across the globe including some within India and China (CDP and The Climate Group, 2015). Recognizing the important role of non-state actors and partnerships between state and non-state actors, the Lima-Paris Action Agenda (LPAA) was launched to strengthen climate action by non-state actors. The LPAA represents an understanding amongst states and the UN system that effective climate action cannot be achieved without the close engagement of all relevant stakeholders. The complementary role of non-state actors is an essential characteristic of SDD.

Diagnostic 4: assembled the relevant scientific, economic and political information to identify the underlying causes of a problem or issue

It is essential to assemble the best information from the scientific, engineering, economic, and social science realms so

that the information is politically relevant, legitimate and technically sound (Cash et al., 2003).

There are three particular challenges. First, gathering information, often produced in disciplinary silos, including both codified and tacit knowledge, is very difficult (Karl et al., 2007). Often available scientific information is insufficient or the available scientific evidence may be conflicting, or expressed with large uncertainties. It can also be used selectively to express deeper values. Second, identifying common ground when values and assumptions about what counts as 'knowledge' may differ is not easy. For example, norms of peer review do not translate directly into qualities of sound traditional knowledge. Reports by industry or government may contain important, relevant information, but may reflect specific interests. Third, the scale at which knowledge is generated and the relevant scale necessary for stakeholders may be different.

The Intergovernmental Panel on Climate Change (IPCC) demonstrates how the design of scientific assessments can reflect aspects of SDD. The IPCC balances regional representation across its working groups, has increasingly diversified academic disciplines from which it draws, and is responsive of the needs of the international climate change negotiations. While certainly not without criticism, the IPCC illustrates the role that scientific assessments can contribute to SDD when they are responsive to the needs of key stakeholders such as negotiators and implementers as well as governments and the general public. The first IPCC assessment report was published in 1990, and provided justification for moving ahead with the negotiation of the UN Framework Convention on Climate Change in 1992. The Kyoto Protocol was negotiated in 1997 following the Second Assessment Report in 1995. Subsequent Assessment Reports increased coverage of mitigation and adaptation through technologies, policies and measures, and provided insights into social and economic dimensions of climate change and the effectiveness and cost of alternative responses to it. As the evidence identified by IPCC increased that humans were responsible for observed changes in the climate, pressure built for action. The Third and Fourth Assessment Reports provided increasing evidence of human contributions to climate change, and identified better means of addressing it. The Paris Agreement in 2015 followed the Fifth Assessment Report in 2013. This timeline demonstrates that while the IPCC results have informed global deliberations on climate change, the IPCC has also evolved to produce integrated information that resonate more strongly with policy makers. This suggests a need for strong linkage and feedback between the scientific and diplomatic processes, which can become mutually reinforcing.

Diagnostic 5: created a portfolio of actions that can address the stated goals at a level of complexity that is compatible with the complexity of the problem

Policies, measures, treaties and laws can be either too complex or too simplistic to be effective. It is essential to identify the major goals to be achieved through a mutual gains

approach, and design a response that meets those goals effectively. Often, a portfolio of instruments may work better, as instruments can complement one another, but this is not always the case. It is crucial to understand the nature of policy instrument interactions (Gunningham and Sinclair 1999). Most importantly, it is essential that the instruments be designed to reflect the complexity of the problem at hand.

Identifying linkages to broader agendas, outside of the boundaries of environmental governance, is central to successful SDD. Doing so is not easy, as each regime has its own internal logic, which while complementary, may be complex to navigate (Schipper and Pelling, 2006; Thomalla et al., 2006). Some scholars, however, have also drawn attention to the negative effects of having multiple overlapping regimes, particularly when the treaties are primarily regulatory in nature. For example, the interactions between multilateral environmental treaties and the World Trade Organization have been extensively investigated (Charnovitz 1998; Charnovitz and Weinstein, 2001; Chaytor & Werksman, 2006; Rosendal, 2006; Falkner, 2002, Palmer).

A large part of the complexity comes from the inter-linkages across issues. Sometimes it may be possible to achieve more effective results by linking to a related treaty rather than addressing the issue of concern directly. For example, the Paris Agreement identifies the important role of tropical forests in addressing climate change. REDD-plus is likely to be far more effective in reducing tropical deforestation than actions attempted through the non-binding agreements developed under the UN Forum on Forests. This synergy between the goals of both treaties has allowed progress on an issue otherwise beset with political barriers in its 'original' regime. Similarly, linking issues can revitalize treaties and issues that otherwise might have fallen out of the public attention. For example, an effort to resuscitate flagging issues by tying them with climate change ('climate bandwagoning') has been effective for several issues (Jinnah, 2011; Widerberg and Pattberg, 2015). Conversely, the Montreal Protocol that protects the ozone layer has done much more to address climate change than has the Kyoto Protocol that was specifically designed for that purpose (Molina et al., 2009). Direct mobilization of the Montreal Protocol to eliminate global warming chemicals that were introduced to protect the ozone layer is currently being pursued because of the greater effectiveness of that treaty. Connected to the Paris Agreement is a side agreement between the US and India that will assure that these chemicals will be phased out even more rapidly than either treaty would permit.

Diagnostic 6: identified the levels of political and societal organization where intervention is most acceptable and governance will be most effective and accountable

Policy is most effective when it is implemented at the appropriate level – international, national or local; societal actions may range from the international to the single enterprise and the individual.

Often negotiations have attempted to solve problems at the global level, but this is not the only scale where

engagement is effective (La Viña et al., 2011). First, an awareness of the multi-scalar nature of sustainable development helps with the identification of benefits at each scale (Ostrom, 2010). Even for issues like climate change, where the mitigation benefits are usually conceptualized at the global level, renewable energy and energy efficiency are most effectively implemented at local scales and the aggregate result will have global impact. Plans of some states and cities to cut emissions of greenhouse gases by moving rapidly to low carbon renewable energy, increasing energy efficiency of buildings and creating carbon taxes and trading systems are more ambitious than national and international goals. Additionally, the multi-scalar nature of sustainable development presents opportunities for experimentation and diversification of strategies to avoid an elusive search for a large-scale 'silver bullet' solution. Sustainable development diplomacy, therefore, utilizes the multiple actions being taken at all levels and the changes that have occurred in the global governance system to advance sustainable development.

The involvement of multiple actors in sustainable development diplomacy encourages implementation to occur at the most effective level, and not depend on top-down approaches. As the efforts of subnational governments and corporations illustrate, there are many intermediate social and political levels where implementation can take place. It is mostly at the lower levels that actual implementation takes place in any case. As one diplomat we interviewed stated, 'One cannot run the world from New York and Geneva' (Personal communication, 2012). From an SDD perspective, global agreements are more inspirational and aspirational and set a tone and direction for implementation at smaller, more local scales that include local and regional governments, the private sector, civil society and individuals.

In previous climate negotiations, the decisions on obligations were made 'top-down' at the international level. One of the differences in the Paris Agreement from all previous attempts at producing a climate agreement is that each nation submitted its INDC prior to the meeting. This allowed almost every nation to participate because they were both the unit of action and the unit of decision making on the scale and scope of that action. Finding the 'right level' for intervention was absolutely essential for getting governments to agree to universal participation. The criticism is that this leads to governments under-achieving by proposing to do in many cases what they were already doing, and that these were 'contributions' rather than 'commitments' with no means of enforcement. The hope is that effective implementation will take place because each nation made its pledge on its own terms, and that peer pressure to deliver will be an adequate substitute for enforcement.

Diagnostic 7: instruments are living and flexible and able to respond effectively to new information and the evolving context as actions are taken

Traditional laws and treaties are usually quite inflexible, while many laws and treaties that address environment and

trade allow for the parties to modify the provisions to respond to a changing context or additional information. Agreements must walk the narrow line of assuring that a resource or condition will be managed sustainably while being able to respond to changing information and conditions not anticipated during negotiation.

It is necessary to identify approaches and strategies for handling uncertainties that characterize these systems. Uncertainty can arise from an incomplete understanding of science, as well as from lack of predictability of social, political and economic factors. This has been characterized as cognitive, strategic and institutional uncertainty (Van Bueren et al., 2003). Because of the interconnections among issues, actors and processes in complex systems, uncertainty of the impact of an instrument or policy will always exist, no matter how carefully it is designed.

Many strategies exist to aid decision making under uncertainty. The existence of uncertainty is not a legitimate reason to delay action, particularly when the risk of inaction is high and there is broad consensus on the need to take action in a timely fashion. This is the basis of the precautionary principle that is recognized within the UN system and by most, but not all, governments.

The lack of flexibility of traditional agreements provides another rationale for engaging with non-state actors. Often, momentum can be built with the support of actors that are not direct participants of a process but are key stakeholders. Treaty revisions can then reflect and capture the progress that has been achieved outside the immediate treaty process (Bulkeley et al., 2014).

It was recognized at Paris that the resulting contributions came up woefully short of the agreed upon goal of keeping global average temperatures from rising above 2°C, or the more ambitious 1.5°C limit. One estimate is that implementing the INDCs will lead to a global temperature 3.5°C above preindustrial levels (Climate Interactive, 2015). In response, together with a requirement for transparent monitoring, reporting and verification, every five years progress will be reviewed, and adjustments made to 'ratchet up' national contributions. This flexibility is a common feature of many environmental agreements. It was recognized in early agreements such as CITES and later in the Montreal Protocol that it was not feasible to micromanage trade in endangered species or restrictions of chemicals to protect the ozone layer by requiring parties to ratify each addition as conditions changed and new knowledge was introduced to the system, and so a more flexible amendment approach was utilized.

Conclusions

We have described seven sustainable development diplomacy diagnostics to identify a process that takes into account the complexity of the environment, society and the economy at multiple scales while engaging all parties and their interests while also utilizing expert knowledge.

A number of concerns have been expressed about the SDGs such as their large number, potential trade-offs, and

the lack of institutional mechanisms and means of implementation to achieve the goals (Carr, 2015).

The SDD approach does not dismiss the possible existence of trade-offs among goals but recognizes the need to make those trade-offs at appropriate scales. Given the complex and interacting nature of the SDGs, the trade-offs and synergies are a matter of contingent, contextually dependent factors. What the SDD approach offers is a framework to allow stakeholders to discuss and arrive at mutually agreeable solutions to manage those trade-offs. By allowing values and interests to be placed at the forefront of deliberations, and utilizing a needs-based approach, SDD allows stakeholders to negotiate workable solutions and make adjustments along the way to address uncertainty and changing conditions.

Much of the scholarly attention to the implementation of the SDGs has revolved around the potential role of the High Level Political Forum for Sustainable Development (HLPF) to improve coherence across the multitude of institutions and agencies and to put in place a follow-up process for the 2030 Agenda (Bernstein et al., 2015). The core assumption of scholars advocating for a strong role of the HLPF is that policy coherence leads to effectiveness (Bernstein et al., 2015). The SDD approach recognizes the value of such an effort at international steering, however, there are two important caveats. First, the benefits of policy coherence need to be balanced with the advantages of flexibility, redundancy and robustness offered by a greater variety of options for actors to choose from. Second, the focus needs to expand beyond the global level of the HLPF to the appropriate political and social levels for implementation to be effective.

One of the most important considerations in the SDD approach is the need for compatibility between the goals in question and the scale at which they can be reasonably implemented and monitored. It is vital that relevant stakeholders are involved and the process is living and flexible. Monitoring and review are an integral part of successful implementation.

More broadly, novel forms of governance are often critiqued on the following issues: legitimacy and accountability, short attention spans and lack of sustained cooperation, and further marginalization of the weakest segments of society (Bäckstrand, 2006; Pattberg, 2012). We argue that the focus of research has to go beyond the two poles of procedural legitimacy and legitimacy defined by problem resolution. Further, it is important to stress that our proposal for utilizing the SDD diagnostics does not imply a hands-free method that only engages with forms and types of governance as they emerge. SDD recognizes the importance of multilateral approaches and views these approaches as being critical for sustaining attention on issues that might otherwise be ignored. Similarly, SDD's emphasis on mutual gains addresses distributional aspects of governance but fundamental issues of power may still remain.

Equipped with a shared vision, now there is a need to continue to utilize an SDD approach from the goal-setting phase of the negotiations through the lifetime implementation of

sustainable development policies and actions. As the SDG agenda moves forward, it will be important to expand on the lessons learned from the history of environmental governance to ensure that social and economic dimensions of sustainability are integrated to ensure the goals remain living, flexible, and adaptive. The approach being taken addresses development goals rather than pollution control, and if successful will become a *first step* for meeting climate requirements as demonstrated in the Paris Agreement. Utilizing the diagnostics described in this paper will increase the likelihood that many of the additional recently agreed upon Sustainable Development Goals may also be successfully implemented.

Notes

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1. While governance of sustainable development has been explored in detail in the socio-ecological systems literature (Dietz et al. 2003, Folke et al., 2005, Pahl-Wostl, 2009), it has not been studied as extensively for the diplomatic processes involved in sustainable development governance.
2. The term diagnostics is used, in keeping with the problem-solving approach taken by Ostrom (2007) and Young (2002).

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