

Of Course International Institutions Matter: But When and How?

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Research over the last decade by scholars of international relations and comparative politics has clearly demonstrated that international environmental institutions can produce quite dramatic changes in the behaviour of the states and non-state actors that they seek to influence. Taken as a whole, that body of research has also demonstrated several other important points. First, it has shown that determining whether observed changes in behaviour were driven by the institution or by other, exogenous, factors is not a trivial problem. Second, it has shown that although there are many international environmental institutions that have been quite effective, others have wielded little if any influence. Third, it has begun to identify features of international environmental institutions that promote effectiveness and features that tend to undercut it. Fourth, it has also begun to show how effectiveness depends not only on the features of the international environmental institution but also on features of the problem being addressed, the broader international context, and the countries whose behaviour the international environmental institution seeks to influence. The research conducted to date has also demonstrated that international environmental institutions wield influence both through rationalist mechanisms in which states engage in self-conscious processes of identifying and responding to material incentives and through constructivist mechanisms in which norms, identities and ideas play far more important roles than interests and power. One question that has yet to receive attention is how international environmental institutions compare to other social efforts in their ability to induce positive environmental change, including through state policies outside of the realm of international environmental institution, through private corporate regimes, through the activities of non-governmental organisations and civil society more generally, and through epistemic communities.

Of course international environmental institutions "matter"

During the late 1980s and early 1990s, scholars working on international environmental politics spent

considerable time and effort engaging in the realist-institutionalist debate over whether institutions matter. The issue at the time was whether international environmental institutions, or "regimes," defined as "norms, principles, rules, and decision-making procedures around which actors' expectations converged" ever influenced state behaviour (Krasner 1983, 1). Considerable theoretical and empirical research at the time focused on evaluating whether (or demonstrating that) international environmental institutions influenced behaviour at least in some instances. Early in the 1990s, several scholars developed case studies clearly demonstrating states and substate actors taking actions that could not be explained by reference to their pre-institutional power and interests (Haas 1989; Haas, Keohane, and Levy 1993; Mitchell 1994b). These efforts soon developed into a research programme focused initially on explaining compliance with international law which then developed further into what has come to be known as regime or institutional effectiveness research (Keohane and Levy 1996; Hasenclever, Mayer, and Rittberger 1997; Brown Weiss and Jacobson 1998; Victor, Raustiala, and Skolnikoff 1998).

Scholars working within this research programme have produced an array of studies demonstrating that international institutions sometimes lead states and non-state actors to reduce their harmful behaviour; that sometimes these reductions lead, in turn, to improvements in environmental quality, and, in rare cases, to the elimination of the original problem; that sometimes such institutions can also exacerbate environmental problems; and that, not surprisingly, sometimes they have no influence at all.

Careful studies of the Mediterranean Action Plan, the Convention on Long-Range Transboundary Air Pollution (LRTAP), the Montreal Protocol on stratospheric ozone depletion, and oil regulations under marine pollution treaties have shown both that international environmental institutions have influenced state behaviour and have provided considerable insight into the mechanisms by which they do so (Haas 1990; Levy 1993; Haas 1992; Parson 1993; Parson and Greene 1995; Mitchell 1994a). Other studies have highlighted cases where international environmental institutions made little, if any, difference in state behaviour or even exacerbated the problems they were seeking to remedy, including treaties addressing whaling, many fisheries, whaling, tropical timber, and

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the Rhine river (Peterson 1992; Andresen 1997; Peterson 1993; Wilder 1995; Bernauer and Moser 1996). Many of these, and other, studies have produced more nuanced findings demonstrating that international environmental institutions that influence the behaviour of some set of states may have little influence on others, as evident in the Convention on International Trade in Endangered Species ivory ban, or may initially have little influence but become more influential later in time, as evident in the international wetlands convention (Brown Weiss and Jacobson 1998; Victor, Raustiala and Skolnikoff 1998; Mofson 1996; Matthews 1993). As several commentators have noted, however, the field is plagued by the problem of selection bias, with only a small and undoubtedly unsystematic sampling of the international environmental institutions that exist having been evaluated (Downs, Rocke, and Barsboom 1996). For most of the more than 500 multilateral environmental legal instruments currently in existence, we simply have no evidence or analyses relevant to the question of whether they were influential or not.

Do international environmental institutions matter and how would we know?

Before engaging the question of whether international environmental institutions “matter,” we must clarify what we mean when we ask whether a regime “mattered?” That is, we must define what we mean when we say a regime is effective or influential. In the environmental realm, most scholars have thought of regime effectiveness in terms of how outputs of interest are different than they would have been had the institution not existed. At the institutional level of analysis, research in this tradition attempts to determine whether and in what ways behaviour and/or environmental quality are different than they would have been had the institution not existed. At the state level of analysis, the same question can be framed in terms of how a state whose behaviour is regulated by a regime or institution would behave differently if this behaviour were not regulated, either because it was not a member of the regime or because the regime did not regulate that behaviour. The ultimate objective is to determine whether the energies of the state are directed differently in the presence of the treaty, regime, or institution than they would be otherwise. Initial tendencies to frame questions in terms of regime compliance have more recently been rejected in favour of thinking in terms of regime effectiveness as theoretical logic and empirical evidence demonstrated that compliance was neither necessary nor sufficient for effectiveness. Compliance was not

necessary since a demanding treaty might induce considerable behavioural change (and even environmental improvement) even as the behaviour fell short of the legal requirements of compliance. Compliance was not sufficient since a non-demanding treaty (at the extreme, one which merely codified existing behaviours) might be marked by high levels of compliance that resulted from few if any changes in behaviour (and produced no environmental improvement). Much, though not all, research to date on international environmental institutional effectiveness has focused on the influence of regulatory regimes. Young has noted that regimes are not always regulatory, but can also be procedural (facilitating recurring collective choice), programmatic (facilitating the pooling of resources toward collective goals), or generative (helping develop new norms and social practices) (Young 1999b, 24ff; Young 1998a, 145).

Effectiveness should be distinguished from performance as well as compliance. The performance of an environmental treaty can be thought of as some measurement of the behaviours or environmental quality (the “outputs”) observed under a treaty. Effectiveness, by contrast, is better thought of as performance relative to some baseline. The question, of course, is what baseline. Although using different terms, recent scholarship has suggested that effectiveness can be evaluated along two different scales and, in both cases, against two different standards. Effectiveness can be evaluated along scales that measure either changes in the behaviour being regulated or changes in the environmental indicator that is the ultimate concern of the institution. As one might expect, which of these scales is used has important analytic as well as political effects. Making progress in terms of environmental quality often proves more difficult than making progress in terms of behaviour, if only because behavioural change in any given arena is necessary but not sufficient for environmental quality change. Even perfectly successful efforts to alter a given behaviour may not produce corresponding environmental improvements if the environmental degradation at issue, as with many types of environmental degradation, results from a suite of human behaviours rather than simply from one.

Besides distinguishing among scales of effectiveness, we also must distinguish among standards of effectiveness. The two major standards currently being used by scholars are those involving counterfactuals and goal achievement. That is, regardless of the scale being used, one can evaluate progress relative to what would have happened otherwise, asking “how much did the institution contribute to making things better, whether behaviourally or environmentally?” or rela-

tive to the intended goal, asking “how much did the institution contribute to achieving the objectives that motivated its creation?” (Young 1998b; Young 1999a).

No small fraction of the debate over the influence and effectiveness of international environmental institutions arises from the simultaneous and often implicit use of very different definitions. Many environmentalists, concerned with motivating institutional progress, focus on how far short most environmental institutions fall from the environmental quality goals established in international agreements, let alone those held by the environmentalists themselves. Not surprisingly, many negotiators and diplomats, concerned with both justifying the existence of such institutions and looking for ways to improve them, focus on how much progress many international environmental institutions make in inducing behaviours that would not have occurred absent the institution.

The preceding discussion makes clear that any attempt to evaluate effectiveness must identify ways of convincingly identifying appropriate and plausible counterfactuals. Any claim that an institution was effective, whether in terms of behaviour or environmental quality and in terms of the goal or some prior baseline, implies that, absent the institution, outcomes would have been different. Creating convincing counterfactuals is certainly easier when seeking to evaluate behaviour rather than environmental quality, simply because the number of non-regime influences on behavioural change, however large, is always smaller than the number of non-human influences on environmental quality. Put differently, even a fully complete model that could exactly predict aggregate human behaviours based on the influence of international environmental institutions and all other factors (an obviously unachievable model) would still be incapable of predicting environmental quality without adding yet more factors into the model, including in most cases a large stochastic component.

Despite the standard set of obstacles to creating convincing counterfactuals, environmental problems provide some interesting options for doing so (Fearon 1991; Biersteker 1993; Tetlock and Belkin 1996; Sylvan and Majeski 1998). We can estimate what a state that was a member of a regulatory treaty would have done otherwise (and hence estimate the effect of the treaty on that state’s behaviour) by examining a) the behaviour of that state prior to the treaty’s entry into force for that country, b) similar behaviours of that state in areas not regulated by the treaty, and c) the behaviour of states who were not

party to the treaty after its entry into force. Since we cannot observe the true counterfactual situation (in what is known as the “fundamental problem of causal inference”), examining these and related observable phenomena provide us with some basis for making educated guesses or informed conjectures about what the member state would have done had it not been a member (King, Keohane, and Verba 1994).

What makes international environmental institutions matter and when?

Evidence demonstrating that some international environmental institutions matter and others do not poses the questions of what explains this variance across international environmental institutions. Four potential categories of factors exist. First, negotiators and others concerned with international environmental policy certainly hope that at least some of the variance in effectiveness is due to intentional differences in the institutional design features. That is, differences in the institutions themselves explain the differences in their effectiveness. That need not be the case, however. Work to date suggests three additional categories of factors that, at least potentially, explain the variation in the effectiveness of different international environmental institutions. These additional categories of influence, describe below, include features of the problem, features of the broader international context, and features of the countries whose behaviour the international environmental institution seeks to influence.

These latter three sets of factors may produce variation in performance or in effectiveness. That is, they may lead to differences in outcomes in which institutional features play no part. However, it may also be the case that these factors are “permissive” or conditioning causes of influence, with an international environmental institution having influence on states when these variables have certain values and that same international environmental institution having no influence when these variables have other values.

What makes international environmental institutions matter? Institutional features

Scholars have identified a range of features of an international environmental institution that, at least in some cases, appear to determine whether an international environmental institution is influential or not. The rules of the regime, both on paper and in use, certainly may play a part in their influence. These rules can be categorised as the international environmental institution’s primary rule system, the informa-

tion system, and the response system (Mitchell 1996). The primary rule system consists of the rules that delineate the behavioural requirements of the regime. The influence of an international environmental institution has been posited as depending on the ambitiousness or “depth” of these rules, whether they consist of negative proscriptions or positive prescriptions, whether they were adopted by a legitimate process, and a range of other features (Downs, Rocke and Barsoom 1996; Princen 1996; Franck 1990; Brown Weiss and Jacobson 1998). An international environmental institution’s information system also may determine its ability to alter behaviour. The transparency of the regime and the design of systems for implementation review as well as rules for improving both scientific knowledge of the problem and technical understanding of possible solutions can all have significant impacts on an international environmental institution’s effectiveness (Victor, Raustiala and Skolnikoff 1998; Mitchell 1998). The effectiveness of international environmental institutions does not depend solely on whether these systems identify violations or compliance, or more broadly identify behaviours that either support or undercut the goals of international environmental institutions, without such identification also leading to some form of response, however diffuse and non-material. An international environmental institution’s response system can be based in the traditional distinction between sanctions and rewards but much research has also noted the important role that capacity-building, violation prevention, labelling and information exchange, and norm generation can play in leading states to adopt new behaviours (Downs, Rocke and Barsoom 1996; Chayes, Chayes, and Mitchell 1995; Haas, Keohane and Levy 1993; Mitchell 1994b; Clapp 1994; Parker 1997).

Besides these elements of, or directly related to, the behavioural requirements of the international environmental institution, several other features may also prove influential. Membership rules certainly seem likely to be important determinants of the influence of international environmental institutions, although at a theoretical level it remains unclear whether a regime consisting of a smaller but more committed set of states is likely to prove more or less effective (in terms of aggregate behavioural change or environmental improvement) than one with a more universal membership but less aggressive primary rules (Koremenos, Lipson, and Snidal 2001). Likewise, and especially in terms of long run dynamic effectiveness or robustness, an international environmental institution’s ability to responsively revise primary rules, information systems, and response systems as things

change can be important with some interest in whether arrangements involving frameworks and protocols prove more effective than those that require amendment (Young 1998b). Of course, the resources that the international environmental institution itself and the member states—as well as supporting nongovernmental organisations (NGOs) and multinational corporations—bring to bear in attempting to implement an international environmental institution’s provisions will be crucial to converting requirements that may look good on paper into reality.

When do international environmental institutions matter?

Beyond such institutional features, the performance and effectiveness of international environmental institutions depend on features of the problem, the context, and the countries that are their members.

PROBLEM FEATURES

The attempt of international environmental institutions to remedy a range of environmental problems that do not all share the same characteristics. Recent scholarship has suggested that problems vary in several important ways that influence the ease or difficulty with which they can be remedied (Rittberger and Zürn 1991; Young 1999a; Miles et al. 2001). Thus, environmental problems involving coordination problems have far fewer concerns regarding non-compliance than those involving collaboration or Tragedy of the Commons type problems, which in turn face an easier, if not easy, task than those involving upstream/downstream problems or asymmetric externalities (Stein 1983; Mitchell and Keilbach 2001). The distribution of power among states and the corresponding distribution of interests that states perceive themselves as having in remedying, or ignoring the problem are also important determinants of the ease of remedy. Interests can include both visible and material concerns as well as less obvious but nonetheless potent concerns with underlying values and identities.

Problems may pose greater or lesser challenges to an international environmental institution due to variation in how many actors are causing the problem and in how susceptible those actors are to regulation. Thus, the more concentrated the actors who must be regulated, the easier the process of monitoring their behaviour as evident in the regulation of the relatively few producers of chlorofluorocarbons rather than the myriad consumers under the Montreal Protocol. The activity causing the environmental problem may also

be more or less susceptible to monitoring. Thus, destruction of a wetland or other habitat leaves long lasting traces that often can be readily linked to their perpetrators whereas marine or river pollution often is difficult to observe and even more difficult to link back to the perpetrators. Problems vary considerably in how embedded they are in the social, economic, and political structures of the societies that perpetrate them, as well. Thus, to give one example, reducing the use of fossil fuel use to mitigate climate change under the Framework Convention on Climate Change is likely to prove a far more difficult problem than did reducing the use of chlorofluorocarbons under the Montreal Protocol. The extent of scientific knowledge about the problem is also likely to prove influential in how readily states respond to the demands of international environmental institution, and this knowledge as well as technical knowledge about solutions is likely to be a function not only of the institution itself (as noted above) but also exogenous factors that may well be not influencable.

CONTEXT FEATURES

The international context also will condition the ease or difficulty an international environmental institution will have in inducing behavioural change among member states. The level of economic interdependence among member states, whether in the extensiveness of trade relations or the existence of regional economic integration groups like the European Union, seems likely to influence the ease of inducing environmental change as does the level of institutional interdependence, such as that captured by the increasing degree of overlap of membership in a broad array of international environmental institutions. In both cases, these interdependencies are likely to give states a sense, whether accurate or not, that their behaviour within a given international environmental institution will influence the cooperativeness of other states in other realms that may be of more importance while simultaneously allowing states who seek to induce environmental co-operation more mechanisms for rewarding or punishing others in their attempt to do so.

The general level of environmental concern in civil society is likely to play an important background role in the responsiveness to international environmental institutions as well. Increases in the general level of environmental awareness and concern may help a wide range of environmental regimes become more effective. Equally important, variation in concern across environmental problems and over time can help explain variation in the effectiveness of corresponding international environmental institutions.

Governments are likely to be more responsive to international environmental institutions addressing problems that have higher levels of salience with their publics. Likewise, the effectiveness of an international environmental institution is likely to ebb and flow in tandem with the ebb and flow in the salience of a given problem due to educational efforts by NGOs and the media. Broader themes running through international relations may also influence the willingness of states to fulfil their environmental commitments. Evidence suggests that the Soviet Union was more willing to co-operate under the Convention on Long-Range Transboundary Air Pollution because of concerns related to détente than they would have been otherwise, and the end of the Cold War seems likely to have facilitated co-operation among states that previously were on different sides of the previous East-West divide (Levy 1993). Likewise, the dramatic changes relating to terrorism in 2001 are likely to have significant, if difficult to predict, influences on the effectiveness of international environmental institutions.

COUNTRY CHARACTERISTICS

The influence of an international environmental institution varies across member states as well as across international environmental institutions. To explain these variations, it is necessary to also look at the country level characteristics that influence whether states fulfil their environmental commitments. One of the earliest set of factors identified as crucial in explaining differentials in environmental responsiveness are those related to state capacity. The financial, technical, and administrative capacity of states to fulfil their obligations under various international environmental institutions and to induce sub-state national actors to make required behavioural changes varies considerably. Much non-compliance with the requirements of an international environmental institution can be attributed to the inability to comply as well as the desire to violate (Haas, Keohane and Levy 1993; Chayes and Chayes 1995; Brown Weiss and Jacobson 1998). The economic, political, and social structures of states also vary widely and alter how responsive governments are to the views of their publics and how responsive their publics are to the policies of their governments.

States vary in the general level of environmental concern as well as in the relative importance given to particular environmental issues. Developed states have a quite different set of environmental concerns than developing states, and it is not surprising to see the former states taking much more concerted action to fulfil the requirements of international environ-

mental institutions that, not surprisingly, reflect their environmental interests more than the environmental interests of developing states. States vary considerably in the number of NGOs, multinational corporations, elites, and publics and in how much influence these various groups wield both in the development and implementation of policy. There are considerable differentials in both the ability and desire of states to take leadership roles in the international community, and in the roles states see themselves playing in that community, as evident in the frequent efforts by Scandinavian states to take strong environmental positions earlier than other states (Levy 1993). Leadership also plays an important role at the domestic level, as the willingness of states to respond to international environmental requirements may change when leaders less committed to environmental action replace those more committed to such actions as evident in the changes in US climate policy during the 1990s. Finally, the level of knowledge and expertise on any given problem, and in particular the level of indigenous knowledge and expertise, varies considerably across countries and is also likely to influence both how willing and able states are to alter those behaviours that influence environmental quality.

How do international environmental institutions matter? The mechanisms of influence

Identifying the factors that determine whether and when an international environmental institution is effective entrains the additional question of how those factors influence behaviour. In line with the recent debate in international relations more generally, we can think of the mechanisms by which international environmental institutions influence behaviour as breaking into rationalist and constructivist categories (March and Olsen 1998; Young 1999a).

RATIONALIST MECHANISMS

One strain of thinking is that international environmental institutions influence behaviour through a “logic of consequences” in which states alter their behaviour in response to changes in the way in which they calculate what behaviours are in their best interests. In this model, international environmental institutions alter behaviour by providing essentially instrumental changes to the world in which states make decisions, tilting the incentives and opportunities they have to engage in the behaviours the international environmental institution seeks to promote. International environmental institutions can help states overcome collective action problems by altering a variety of the elements of that decision context in which

states operate. They can help initiate and sustain a focus on certain environmental problems (and away from others) in a process of agenda setting. They also can increase certain behaviours simply by creating standards (with little if any enforcement), where the standards simply categorise behaviours as desirable or undesirable (“green” or “brown”) which provides the foundation for concerns about, and perhaps the reality of, shaming states who do not engage in the behaviours required or encouraged by the international environmental institution.

Obviously, international environmental institutions also can operate much more instrumentally and directly, however. International environmental institutions can incorporate sanctions against states that fail to fulfil their requirements or offer rewards to those that do so. Thus, the Montreal Protocol threatens sanctions for developed states that fail to reduce CFCs according to the targets and timetables laid out while offering assistance as an incentive to developing states that expect to have difficulty in that regard. Both the Rhine river regime and a 1911 fur seal arrangement had provisions offering side-payments to states to encourage them to adopt behaviours they would not otherwise have adopted. Besides sanctions and rewards, international environmental institutions can seek to increase the capacity of member states to fulfil their commitments or reduce their opportunities to violate their commitments. Capacity-building measures have become an increasingly common element in international environmental institutions that include developing states who may lack the financial or technical ability to comply with their provisions. Although not frequently observed, as environmental concern increases one might expect provisions imposing controls on the export of certain pollutants to states that lack the indigenous capacity to produce them as a way of reducing the ability of those states to pollute. Several recent international environmental institutions have adopted strategies based on simply increasing the flow of information through prior informed consent procedures that assume that states are engaging in behaviours they themselves would not engage in if they were fully aware of the consequences of those behaviours (O’Neill 2000).

CONSTRUCTIVIST MECHANISMS OF INFLUENCE

Another strain of thinking is that international environmental institutions influence state behaviour through a “logic of appropriateness” in which state behaviour is explained as a function of the identities states adopt and the behaviours considered appropriate to those identities. In this model, the behaviours

of states results not from decisions about what is in the state's interest but rather from assessments of what identity the state seeks to promote or project and what is the behaviour appropriate to that identity. After initial assessments such as that, state behaviour also is likely to reflect the influence of the habit of compliance or conformance with treaty norms.

According to this view, international environmental institutions can induce behaviour change by promoting improvements in and diffusion of scientific and technical knowledge. Through the process of scientific investigation and assessment, not only do states identify and improve their understanding of their material interests but they also develop new identities and roles over time. The process by which scientists working on behalf of a government to understand the environmental impacts of human behaviour is likely not only to increase their understanding of those impacts but is also likely to influence their commitment to both environmental goals and international pursuit of those goals. These processes have been identified in both the scientific developments surrounding the Mediterranean Action Plan and LRTAP (Haas 1990; Levy 1993). International environmental institutions also can promote new norms and alter the discourse and rhetoric that surround an environmental issue making it more difficult (though surely not impossible) to sustain arguments that economic or security interests should take precedence over environmental ones (Litfin 1998). At an even broader level, international environmental institutions may facilitate behavioural change and environmental problem through a diffuse but nonetheless important process of dynamic social learning in which the ability to manage environmental problems collectively improves over time (Social Learning Group 2001).

How much do international environmental institutions matter?

Arguing that international environmental institutions matter does not imply anything about how much they matter relative to alternative ways of inducing behavioural change and environmental improvement. Comparisons across different approaches to inducing such changes have not yet been seriously engaged by the research community investigating international environmental politics. However, that community as a whole has identified an interesting array of efforts to induce such changes.

Certainly, state policies and behaviours that do not include international environmental institutions have a broad range of influences on environmental behaviour. Potentially one of the biggest influences of

states on the environment lies in the unintended, but nonetheless large, effects of the processes of technological development and economic globalisation. These processes often do not involve intergovernmental co-ordination and their environmental impacts are often not considered but they still have major environmental impacts. Although these are often assumed to be negative, increasing evidence shows that a race to the top may be as, or more, common as a race to the bottom. Of course, explicit co-ordination of economic policies is increasingly common at both the global level within the World Trade Organisation and at the regional level within the European Union, the North American Free Trade area, and other regional trade arrangements. Increasingly, these intergovernmental economic efforts are choosing or being forced to include environmental considerations in their policies. Important environmental impacts also result from the often organic process of policy diffusion by which the national environmental policies of one country are imitated by other countries that view those policies as effective ways to deal with environmental problems that have large negative domestic influences.

Non-corporate actors in civil society have been playing active roles in influencing environmental behaviour globally. NGOs have devised a wide range of programmes designed to reduce human impacts on the environment. From shaming corporations engaged in environmental harmful behaviour to promoting eco-tourism to devising a variety of eco-labels to facilitating debt-for-nature swaps, environmental NGOs have adopted numerous strategies the effectiveness of which have yet to be evaluated relative to international environmental institutions. Alongside these specific efforts are the broader and more diffuse influence of transnational environmental movements that shape the identities, interests, and behaviour of citizens throughout the world (Princen and Finger 1994; Wapner 1996). Scientists engaged in global environmental assessments and in epistemic communities also wield significant influence over the behaviour of states and the private and public citizens that compose states in ways that may be much more far-reaching and fundamental than international environmental institutions.

Private actors operating at both the domestic and international level also appear to be having important influences on the type and extent of environmentally harmful behaviours. Economic and political forces are increasingly leading many multinational corporations to view it as in their best interests to alter their business practices in ways that have environmental benefits, regardless of what competing corporations

are doing. In other cases, they are co-ordinating their behaviour through private regimes such as the International Standards Organisation (ISO) in ways that may well alter corporate behaviours far more than do corresponding intergovernmental efforts. Multinationals also have begun co-ordinating such efforts with nongovernmental organisations, as evident in the efforts of the Forestry Stewardship Council to serve as an independent auditor of logging industry practices (Dudley, Elliott, and Stolton 1997). In all these cases, whether involving state, nongovernmental, or private actors, important questions remain about both how effective these various efforts are individually, how effective they are in the aggregate, and how they compare to international environmental institutions both in their effectiveness and in the conditions that influence such effectiveness.

Other considerations

This discussion has focused on the effectiveness of international environmental institutions defined in terms of their influence on behaviour and environmental quality. Before concluding, it is worth mentioning that there are several aspects of the effectiveness of an international environmental institution that have not been discussed here as well as several effects of international environmental institutions that are not captured in the relatively limited sense of effectiveness that has been used here.

The preceding discussion has conceptualised effectiveness in a relatively static sense of comparing each international environmental institution relative to some counterfactual state of affairs. Yet, the effectiveness of an international environmental institution can be as readily, and perhaps more appropriately, judged in a more dynamic as well as relative sense. The effectiveness of an international environmental institution is likely to depend in no small measure on where it stands in its "lifecycle." Although work has only just begun in this arena, we might well expect international environmental institutions to exhibit a particular temporal profile in which international environmental institutions have low levels of effectiveness initially, become increasingly effective over time as both the international environmental institutions themselves and their member states learn necessary skills, and decrease in effectiveness after passing some point of maturity. Whether following this or some other trajectory, it seems unlikely that we can make an assessment of an international environmental institution at one point in its lifecycle that is equally valid for all other points in that lifecycle. We might also be interested in the effectiveness of a

regime conceptualised in terms of its ability to respond to exogenous changes in the problem being addressed, or what has been called regime "robustness" and flexibility (Young 1999a). This might include the ability of the international environmental institution itself to engage in both simple forms of learning (finding new ways to achieve existing ends) and complex learning (pursuing new ends) (Social Learning Group 2001).

Another important aspect of effectiveness that is only now beginning to engage significant scholarly attention is the relative effectiveness of different international environmental institutions. Assessing relative effectiveness involves attempting to compare whether one international environmental institution is more effective than another in similar circumstances. This raises not insignificant problems of identifying metrics that allow meaningful comparison of international environmental institutions that address different environmental problems changes in which are not readily or even obviously comparable. Scholars are, however, increasingly recognising that for research on effectiveness to be policy relevant it must provide guidance to negotiators regarding which of the available design options is likely to be most effective in addressing a given problem in particular circumstances (Helm and Sprinz 1999; Sprinz and Helm 1999; Miles et al. 2001).

It is also worth noting that international environmental institutions have a wide range of effects that go well beyond the central and intended effects on regulated behaviours and environmental quality (Young 1999a). Scholarship has yet to engage questions of how the efforts of international environmental institutions measure up in terms of their efficiency in the use of resources to induce such behavioural changes. The costs incurred in developing and implementing an international environmental institution are rarely discussed let alone carefully evaluated. Even more rare are efforts to identify and quantify economically the benefits that derive from an international environmental institution. Obviously both these tasks are difficult both theoretically and empirically. Yet they would be necessary elements to any effort to determine whether international environmental institutions are efficient or cost-effective. Nor have scholars begun to seriously examine how the efforts of international environmental institutions to improve environmental quality influence levels of economic equity around the world or have other secondary (i.e., non-intended), but nonetheless important, effects in the world of international politics.

Conclusion

International environmental institutions can influence the behaviour of states and the quality of the environment that their behaviours, in turn, influence. Of course, not surprisingly, not all international environmental institutions realise their potential to wield influence. At times this reflects poor institutional design, while at other times it reflects the influence of a range of factors that would make it difficult for an international environmental institution of any design to alter existing behavioural patterns. In short, international environmental institutions matter sometimes. The foregoing has not delineated a fully integrated model of factors that determine the effectiveness of an international environmental institution, but has provided a list of the factors that previous scholarship has delineated as important to research on these and related issues. Much research remains to be done before we will have a full understanding of why some international environmental institutions work so well and others work so poorly. Making progress in that effort will require theoretical efforts to devise compelling, comprehensive, and integrative models of how international environmental institutions influence behaviour; methodological efforts to complement the large set of qualitative case studies that have already been conducted with quantitative methods that engage questions of relative effectiveness and look for patterns that can only be perceived by looking across international environmental institutions; and substantive efforts to examine the large share of over 500 multilateral environmental agreements that have not yet received any scholarly attention. Pursuing those efforts in the years ahead may allow scholars interested in international environmental politics to provide the policy relevant research necessary to guide negotiators in improving existing international environmental policy and devising new international environmental policies to address the range of environmental problems we are likely to encounter in the decades ahead.

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