23 Ability of Institutions to Address New Challenges

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Abstract: What types of institutional configurations hold the most promise in fostering efforts for long-term amelioration of enduring environmental, social, and economic challenges facing the world's forests? This chapter presents, and applies an analytical framework with which to review research findings and analyses that shed light on what appear to be the most promising institutional settings with which to address these drivers, ameliorate problems, and encourage responsible and sustainable forest management around the globe. Our framework focuses attention on the shift from government to governance; political authority; disentangling abstract policy for specific requirements; and capacity enhancing knowledge-generating and administrative institutions. We reveal that the global nature of economic, social, and environmental demands on the world's forests, and complex commercial trade relationships, require that we integrate analyses of domestic and local responses to assess the role of innovative regional and global institutions designed to address these "good governance" challenges. We conclude by calling for much greater attention to the potential of synergistic institutional intersection to respond to new and enduring challenges in ways that single interventions or institutions are unable to do so.

Keywords: forest governance institutions, FLEG-T, REDD, forest certification, tenure, research and capacity-building institutions, institutional intersection, multi-stakeholder dialogue

23.1 Introduction

One of the most important and pressing questions facing our planet in the global era is to better understand how institutions encourage, shape, or debilitate the promotion of publicly important values and goals. What types of institutional configurations hold the most promise in fostering efforts for long-term amelioration of enduring environmental, social, and economic challenges? Answers to these questions are critical for the global forestry sector because it faces an increasing number of new challenges, highlighted by the complex role of forests in emitting and sequestering carbon and the increasingly fragile, yet critical, role that natural forest ecosystems play in a healthy water cycle. At the same time, long-standing challenges are becoming more acute – including the

critical needs to address the interaction of poverty alleviation and sustainable forest management, and the increasing number of threatened and endangered species that rely on forest ecosystems and habitats for their survival. The drivers of these problems, including global consumption patterns, expansion of the agricultural frontier, and illegal logging, have resulted in countervailing pressures on natural forests as sites for commercial activity and natural ecosystems. The global nature of these economic, social, and environmental demands on the world's forests, and complex commercial trade relationships, requires that we integrate analyses of domestic and local responses to assess the role of innovative regional and global institutions designed to address these "good governance" challenges (Mayers et al. 2002, Cashore 2009a, World Resources Institute 2009).

441

The purpose of this chapter is to review select research findings and analyses that shed light on what appears to be the most promising institutional settings with which to address these drivers, ameliorate problems, and encourage responsible and sustainable forest management around the globe. We do not aim to provide definitive answers, nor to cover the full range of forest-related institutions beyond the scope of a single chapter, but rather to assess the implications of relevant cases for focusing on the next generation of scholarly and practitioner efforts.

We conduct this review in the following analytical steps. Following this introduction, Section 23.2 presents a conceptual framework with which to guide our review of international, domestic, and local institutions whose authority, deliberations, and policy choices are shaped by a range of government and non-governmental forest stakeholders. Drawing on these tools, Sections 23.3 and 23.4 begin with those international, domestic, and local institutions that rely, ultimately, on nation-states (governments) for their authority. Section 23.5 then reviews the emergence of non-state mechanisms, including forest certification and corporate social responsibility efforts that have emerged to address global forest degradation. Section 23.6 focuses on financial and human "capacity-enhancing" institutions that are critical for developing the training, knowledge, expertise, and resources for translating policy into practice.

Drawing on the analytical framework and select discussion of institutions as described above, as well as from the literature on policy "baskets" (Gunningham and Young 1997, Gunningham et al. 1998), we conclude by reviewing how policies governing forestry challenges often emerge across a range of institutions and, given this, reflect on what intersections appear most important for nurturing institutions that can respond and adapt to accelerating and new challenges. Such an approach, we argue, is key for avoiding negative or unintentional policy impacts while nurturing not only the development and adaptation of *policies*, but also corresponding *practices* to which they are directed. Such an approach focuses our attention on the roadblocks, but also on the opportunities, for successful implementation of policies.

23.2 Conceptual Framework

Conducting this review requires attention to four key concepts. First, we need to understand the broader context in which a focus on *government* has given way to *governance* institutions. Second, and related, we need to understand how institutions have, or might earn, *authority* to govern. Third, we need to disentangle the different levels of "policy" that al-

low us to distinguish the emphasis and approach of the institutions we review below. Fourth, we need to expand a political science/policy studies focus on governance institutions to include a focus on knowledge-generating and administrative (bureaucratic) institutions that interact with, and must provide critical resources to, the communities whose forestry-related challenges they seek to address.

23.2.1 Government to Governance Institutions

Until the 1990s, policy scientists placed much of their attention on the institutions of *government*; i.e., scholars were curious about the processes through which sovereign states developed domestic policies or agreed to support international institutions. Recognition since this time that such steering is not always derived solely from state-directed government efforts has led scholars to expand their focus to include "governance" institutions in general. The origins of these changes are owed to many factors, including the emergence of multi-stakeholder policy networks (Rhodes 1997), transnational coalitions (Keck and Sikkink 1998, Knill and Lehmkuhl 2002), public-private partnerships (Börzel and Risse 2005), the emergence of "new public management" approaches in which private actors are often engaged to implement public policy objectives (Salaman 2002), and developing country-focused transnational private conservation networks (Balboa 2009), all of which sit alongside traditional "government" institutions (Glück et al. 2005). Accordingly, we adopt Young et al.'s (2008) definition of institutions, which allows us to capture state, public-private, and non-state efforts as a "…cluster of rights, rules, and decision-making procedures that gives rise to a social practice, assigns roles to participants in the practice, and guides interactions among occupants of these roles."

23.2.2 Authority and Legitimacy

The ability of institutions to adapt to challenges requires that they have, or earn, *authority* to govern. This requires attention to understanding whether, and how, relevant organisations, including governments, stakeholders, and societal interests, *support*, and *agree to abide by*, the "rights, rules, and practices" of the institution(s) in question. This is important because it is never the case that all stakeholders will agree to all policy decisions made by a governance institution; but for institutions to be effective, those they seek to govern and assign roles must respond to, and be directed by, their policy decisions.
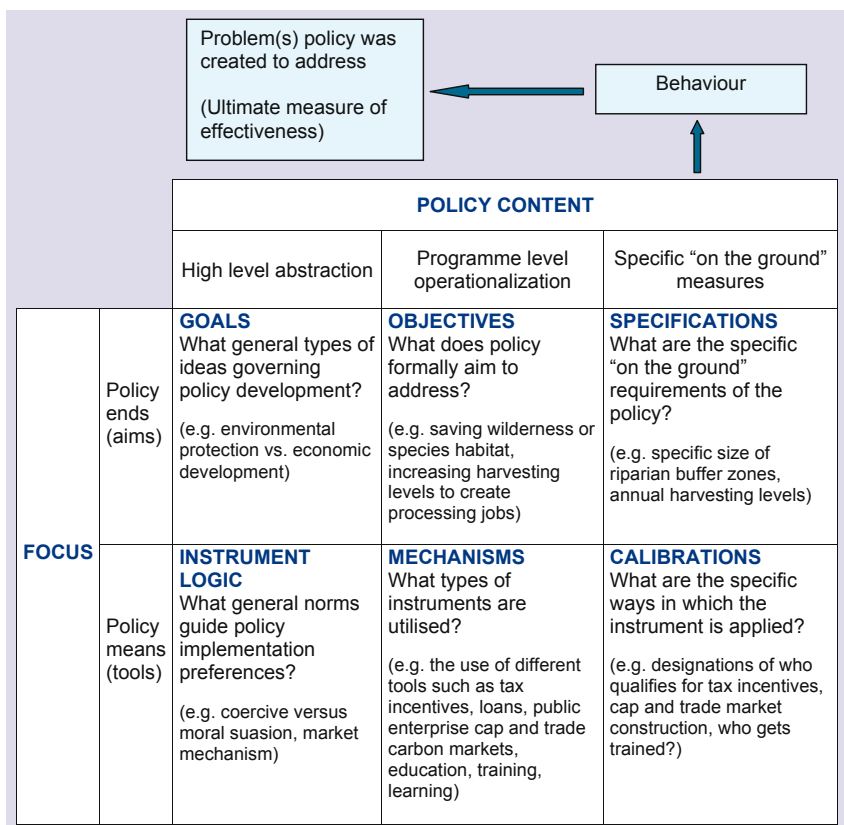
Problem(s) policy was created to address (Ultimate measure of effectiveness)		←	Behaviour	

POLICY CONTENT			
	High level abstraction	Programme level operationalization	Specific "on the ground" measures
FOCUS — Policy ends (aims)	**GOALS** What general types of ideas governing policy development? (e.g. environmental protection vs. economic development)	**OBJECTIVES** What does policy formally aim to address? (e.g. saving wilderness or species habitat, increasing harvesting levels to create processing jobs)	**SPECIFICATIONS** What are the specific "on the ground" requirements of the policy? (e.g. specific size of riparian buffer zones, annual harvesting levels)
Policy means (tools)	**INSTRUMENT LOGIC** What general norms guide policy implementation preferences? (e.g. coercive versus moral suasion, market mechanism)	**MECHANISMS** What types of instruments are utilised? (e.g. the use of different tools such as tax incentives, loans, public enterprise cap and trade carbon markets, education, training, learning)	**CALIBRATIONS** What are the specific ways in which the instrument is applied? (e.g. designations of who qualifies for tax incentives, cap and trade market construction, who gets trained?)

Figure 23.1 Policy taxonomies.
Sources: Cashore and Howlett 2007, Howlett and Cashore 2009.

What then are the processes through which institutions are supported by a wide "political community" (Bodansky 1999) of stakeholders and citizens? March and Olsen (1995) identify two distinct pathways: through a "logic of *appropriateness*" that stands in contrast to a "logic of *consequences*". The former occurs when culturally ingrained norms and values explain support and that almost always entail a reflection on broader notions of community and citizenship.[1] The latter captures "rational" "self interested" calculations of organisations and individuals that usually pertain to whether, and how, a particular policy decision might directly benefit individual or organisational strategic self interest (Ostrom 1990) and/or directly addresses a specific policy challenge at a given point in time (Bernstein and Cashore 2007). These pathways lead us to distinguish the role of institutions in allocating resource rights to identified communities, such as local decentralisation and tenure reform efforts, from their

role in regulating or prescribing particular behaviours (such as environmental practices or policies governing forest harvesting).

23.2.3 Disentangling Policy

The third concept in the conceptual framework is to disentangle what is meant by "policy". (Figure 23.1). This is important because, as the review below finds, some governance institutions, especially intergovernmental and corporate social responsibility efforts, identify relatively abstract environmental, economic, and social policy *goals*, but are either silent on, or do not require adherence to, more concrete *objectives* (such as maintaining "viability" of species populations) and *specifications* (such as the size of "no harvest" buffer zones near streams) (Cashore and Howlett 2007). In some instances, an abstract focus appears to limit the ability to govern or adapt effectively. However, in other cases, institutions that develop abstract goals may rely on, either explicitly or implicitly, more authoritative domestic institutions or private certification systems to develop, and apply, more precise policy requirements. In such cases, understanding the intersection of institutional configurations is critical for assessing the potential of institutions to adapt.

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[1] The need to develop a norm of citizenship in which individuals and governments support governance institutions, is explicitly or implicitly mentioned by virtually every practitioner account of forest governance including Contreras-Hermosilla et al. (2008) who assert that the norm of "Respect of the law by governments, the private sector and the civil society" is a critical requirement of good governance.

Institutions also nurture ideas about policy "means" or "instruments". The same institutions that may only focus on abstract policy "ends" may be very powerful in championing norms that influence the *logic* of instrument choice towards "market-friendly" efforts over "command and control" regulatory requirements. This logic, as our review of recent intergovernmental processes shows, may exert a normative pull on states. States may observe the norms and principles expressed in such "soft law" (abstract and/or non-binding policy) which, Szasz (1992) argues, may have "a predictive value similar to those norms expressed in hard [binding] law." For example, the norm of "neo-liberalism" holds that the common collective good is best realised when individuals compete in the marketplace. Neo-liberalism favours certain policy responses and interests over others, promoting the international liberalisation of trade and financial markets (Bernstein 2002). As a result, it eschews mandatory measures, such as international legislation or regulation by the state, favouring private sector responses; market-based instrument *mechanisms*, such as eco-labelling; voluntary commitments; and corporate codes of conduct (MacEwan 1999, Giroux 2004, Harvey 2005, Humphreys 2006a). Recognition of this focuses our attention on the ability of wide-ranging mechanisms, including those that create direct incentives to improve managing for ecosystems, such as direct payments for ecosystem services (PES) that are consistent with neo-liberal norms.

Likewise, norms governing instrument logic can affect specific instrument "calibrations," such as decisions about whether to apply significant penalties, the amount of resources spent on field monitoring, and the degree of *discretion* in enforcing written policy specifications. Recognition of these different levels is critical for our concluding analysis that reflects on what appear to be the most interesting "mixes" of institutions and policy choices for achieving desired results.

23.2.4 Capacity-Enhancing Institutions

Our conceptual framework expands a focus on governance institutions to include those that generate the knowledge, research, training, and learning at the "local level" that create an enabling environment for achieving on-the-ground behaviours that governance institutions seek to promote and the problems they seek to ameliorate. Two critically important categories of institutions emerge from this exercise. The first focuses on the role of educational, training, research, and extension institutions whose interactions with stakeholders, communities, and practitioners create a learning and adaptive process critical for

realising policy. The second focuses on the ability of administrative institutions (government agencies) to foster efforts that are efficient, effective, and supported by the communities whose environmental, social, and economic challenges they seek to address. Such a focus recognises the need for enhanced research on the role that education, training, technical assistance, and research institutions play in providing foresters and scientists with the tools to manage forest problems and adapt to new challenges.

23.3 International and Intergovernmental Governance Institutions

The conceptual tools introduced above allow us to analytically assess a select, but important, set of public and private governance institutions that have attempted to address accelerating and increasing forestry challenges since the 1980s. In order to understand whether, and when, institutions may nurture norms and ideas; have, or earn, authority to enforce compliance to precise policy requirements; earn support from a range of stakeholders; and to reflect on whether "institutional intersection" might lead to adaptive capacities in ways a single institution could not; we apply our analytical lens across international, domestic, and local spheres. We begin with traditional intergovernmental negotiations that have paid great attention to norms, such as the promotion of "sustainable forest management," and "neo-liberalism," but also increasingly the norm of community participation, especially with respect to indigenous and forest-dependent peoples.

An appreciation of the direction and focus of truncated efforts to build international forest institutions is critical for understanding, and places in context the range of institutional innovations and adaptations that have occurred through other global, regional, domestic, and local institutional reforms. The first recognition is that international institution-building efforts reinforced the appropriateness of four sometimes countervailing goals: a neo-liberal agenda that promotes the liberalisation of global capital and trade; increasing focus on environmental regulations and standards in the face of scientific findings about accelerating environmental degradation; a strong orientation towards the goals of improving greater use rights and access to resources of indigenous and forest-dependent local communities; and related, rural development and poverty alleviation. Each goal finds a different emphasis across the institutions we review, which includes efforts to bring forests into an international climate regime institution, the promotion of "good forest governance" through regional, domestic, and local initiatives that champion baseline

forest management on the one hand and community participation involvement on the other.

While international institutions have yet to significantly affect "on-the-ground" behaviour, internationally generated norms appear to have had some role in shaping problem definitions in other institutional arenas – particularly regional efforts to promote "good forest governance" – that often focus on market mechanisms, including "forest certification," timber legality, and reduced emissions from deforestation and degradation (REDD) proposals emanating from international climate talks. These climate and forests initiatives are being designed to provide concrete resources and incentives to developing the capacity of tropical country governments and managers to manage forests in ways that promote sequestration of carbon emissions. However, whether and how a climate regime can help forest managers adapt to these new challenges will depend, in part, on the interaction of neo-liberal norms, which may favour transnational firms, with the norms of indigenous community participation and poverty alleviation in shaping the development of specific policy measures (Seymour 2008, Rights and Resources Initiative 2009).

We also find that some efforts to build institutions are not focused so much on regulations or prescriptions governing a specific ecological or social challenge, but instead on broader questions regarding who gets access to, and benefits from, resource management. These "resource rights" efforts over forest tenure, reinforce our emphasis on whether and how arrangements earn support from an array of stakeholders and citizens that can contribute to, rather than detract from, efforts to provide "good forest governance," which must tend as much to nurturing a "logic of appropriateness" as a "logic of consequences" (Cashore 2009a, 2009b).

Ever since the mid-1980s, when tropical forest destruction came onto the domestic policy agendas of developed countries, a range of domestic, international, and non governmental organisation (NGO) interests have sought to develop international institutions with which to address global forest challenges and promote sustainable forest management (SFM). Concerted efforts of coalitions of environmental groups, governments, and industry members to promote global institutions that contain clear goals and objectives for forest use and conservation coalesced around building a binding global forest convention. Though a binding convention remains elusive, international negotiation processes did generate new ideas about policy goals and instrument choices that appear to have had an important influence in shaping more focused efforts, such as "reduced emissions from deforestation and degradation" (REDD) and domestic initiatives to build "forest law enforcement and governance" (FLEG). They have also been very

important in raising key goals, such as concerns about North-South equity, indigenous rights, and for emphasising a "three-legged-stool" approach to forest sustainability in which a balance or compromise among environmental, social, and economic goals is required. Likewise, these initiatives seem to have shaped and built new international channels of communication and learning; but they, too, have yet to deliver concrete targets and timetables for reversing forest degradation and destruction. The rapid growth in the number of multi-lateral environmental agreements has scattered intergovernmental forest policy-making, resulting in a plethora of global, regional, and bi-lateral environmental and trade negotiations.

23.3.1 The International Tropical Timber Organisation

One of the first efforts to address global concerns about tropical deforestation and degradation, as well as poverty alleviation, was found in efforts to build, in 1985, the International Tropical Timber Organisation (ITTO) and its associated International Tropical Timber Agreement (ITTA). The ITTO came to emphasise neo-liberal norms of trade liberalisation as a means to alleviate poverty and promote sustainable development, but also incorporated the conservation of tropical forests into its legal organisational mandate. Whether a forest agreement centered on trade is suited to address environmental threats to tropical forests has been subject to considerable debate (Dauvergne 1997, 2001). Some argue that such a focus was misdirected since, in the 1990s, tropical exports of roundwood were relatively limited (Barbier et al. 1994).

On the other hand, since the 1980s, the institutional framework of the ITTO was instrumental in developing sustained and careful attention to criteria and indicator sets for sustainable forest management. While these were designed to be non-binding, these processes have greatly informed more authoritative policy responses through domestic policies and market-based certification efforts, encouraged learning across stakeholders and, perhaps, nudged internationally focused stakeholders towards some notion of a broader global community not reducible to individual organisational self-interest. In this regard, the ITTO has been at the forefront of human capital development, conducting research and disseminating knowledge on such topics as value chains, forest growth and development, and forest enterprise development. The ITTO has also played a direct role through providing resources for policy implementation and training to students in developing countries.

445

23.3.2 The Rio Earth Summit

In part owing to frustrations over the limited impact of the ITTO throughout the 1980s in developing clear and authoritative standards for reducing tropical forest degradation, many environmental groups, social activists, select governments, and forest industry associates began earnest efforts to develop just such a binding and authoritative effort at the global level. The first attempt to formalise such an approach was efforts at the 1992 United Nations Conference on Environment and Development (UNCED), commonly known as the Rio Earth Summit, to agree to sign a forest convention. In many ways, the 1992 Earth Summit was a pivotal point in the history of global forest policy, when world attention was drawn beyond tropical forests to include forests in the Northern Hemisphere. More-developed countries came to Rio with a proposal to establish a global forest convention. Proponents of a legally binding forest convention argued that the world's forests should be considered as a "global commons" (Porter and Brown 2000, Humphreys 2006a) in which all world citizens share an interest and no party could claim exclusive rights. At this stage, however, most developing countries, while interested in inter-governmental dialogue, were highly resistant to the proposed legally binding commitments.

Despite increased acknowledgement of forestry challenges in the North, many countries in the South saw this call for collective action as driven by Northern self-interest, since the majority of the world's most species-rich and/or severely threatened forests are located in the tropics. Tropical developing countries, therefore, could expect to bear the brunt of the effort, and possibly the costs, of implementing any global forest agreement. Perhaps even more important was the South's historically rooted suspicion that multilateral environmental agreements were simply another ploy for asserting Northern control over Southern resources. These developments had the dual role of creating divisions surrounding the *consequences* of a convention, but also, perhaps more importantly, creating significant distrust and concerns about the *appropriateness* of the approach that was being proposed.

In particular, the Group of 77 Developing Countries (G77) felt that current efforts placed greater financial and regulatory burdens on them, while limiting the costs to the wealthier consuming nations in the North. Hence, the G77 stated clearly that it could not agree to any binding forest conservation measures unless it received in return substantial economic concessions from the developed countries. The G77 called for a global forest fund and for technology transfer on preferential and concessional terms to help developing countries achieve sustainable forest management. In particular, they introduced the powerful principle of "compensation for opportunity cost foregone" if they were to agree to conserve, either through protection or sustainable management, rather than convert forest land to other uses. However, reflecting what appear to be straightforward strategic interests, developed countries refused to meet the demands of the developing countries for financial and technological aid, and, as a result, convention efforts were derailed (Humphreys 1996).

It is important to note that the inability to sign a binding forest convention meant a shift, rather than abandonment, of international efforts to shape policy responses. UNCED deliberations nurtured key global norms that negotiators hoped would help shape national forest programs and other initiatives in developing more specific and authoritative policy requirements. These efforts produced agreements on a non-legally binding "Statement of Principles for the Sustainable Management of Forests" (UN 1992) and Chapter 11 "Combating Deforestation" of Agenda 21 (Porter and Brown 2000).

23.3.3 Intergovernmental Efforts Post-Rio: 1992–2000

Since 1992, there have been sustained efforts to keep the dialogue on a global forestry policy alive and to continue to champion the goals put forward at Rio. This dialogue has taken place within a succession of different institutional settings beginning in 1995 with the creation of the Intergovernmental Panel on Forests (IPF) under the auspices of the Commission on Sustainable Development. These efforts continued in 1997 as the Intergovernmental Forum on Forests (IFF) and resulted in the agreement of a set of over 270 non-binding, and sometimes contradictory, "Proposals for Action" to address global forest problems. Once again, the influence of these proposals is not in the creation of mandatory standards, but on whether, and how, they shaped other institutional processes.

Some of the IPF/IFF Proposals for Action have influenced other forest-focused institutions. They appear to have greatly strengthened the development of regional Criteria and Indicator processes involving consensus-based agreements on the essential components of sustainable forest management, including greater attention to the participation of indigenous peoples and local communities, and poverty alleviation. Hence, these efforts have played a clear role in uniting a range of stakeholders about what problems and actions were *appropriate* for inclusion under the abstract goal of "sustainable forest management." Today, regional Criteria and Indicator processes cover almost every country in the world, and while they too are not legally binding, it seems fair to con-

clude that they have played a role in shaping public policy regulations, including very specific requirements, around the world.

The IPF/IFF processes also catalysed the development of national forest programmes (NFPs) and land use programs whereby individual countries establish their own objectives and policy specifications within their sovereign territories, but which appear greatly influenced by emerging international norms fostered by international institutions. For instance, the NFP concept developed by the IPF stressed that NFPs should be holistic, intersectoral, and iterative programs that recognise and respect the customary and traditional land rights of indigenous people, local communities, and other actors. The NFP concept has become particularly well-established in Europe by the Ministerial Conference on the Protection of Forests in Europe (MCPFE), which is also the regional leader in developing Pan-European Criteria and Indicators.

23.3.4 Intergovernmental Efforts Post-Rio: 2000–present

Despite, or perhaps because of, a growing consensus among all parties that inadequate progress was being made, the United Nations Forum on Forests (UNFF) was created in 2000 as a higher level body to replace the IPF/IFF efforts. The UNFF reports directly to the United Nations Economic and Social Council (ECOSOC). At the same time, a new Collaborative Partnership on Forests (CPF) was created, consisting of 14 major forest-related international organisations, institutions, and convention secretariats. The development of the UNFF and the CPF, which together are sometimes referred to as the "international arrangement on forests," constitutes a more permanent, higher priority platform for global forestry negotiations.

Two key issues have permeated most deliberations since 2000. First, developing countries continue to be frustrated by the lack of resources committed by the developed world, especially financial and technical support. They note that overseas development aid has *declined* since global forest efforts were initiated in the late 1980s (UNFF 2002, Molnar 2005). Most Northern countries, however, have resisted direct trade of financial commitments in exchange for forestry reform, preferring to leave this role to other international institutions and the private sector. Second, there remains a fundamental tension within forest governance processes between those promoting neo-liberal strategies for economic growth and trade, and those more focused on non-industrial forest uses and public and community participation. We see similar tensions in the climate regime over the inclusion of non-climate environmental and/or social benefits within global carbon markets. Arguably, these conflicting goals have impeded the development of a regime, although recent efforts have sought, and are seeking, "win-win" strategies. They include embedding social and environmental standards, and the provision of resources for rural enterprise development, into global value chains. Important for our review, much of the growth in the championing of these social and environmental norms can be attributed to the increasing influence of NGO and developing country alliances (Humphreys 2006a), which have inserted and expanded what types of efforts and goals are prerequisites for institutions to be viewed as *appropriate*.

These factors may explain why the UNFF has expanded championing principles of sustainable forest management to focus on developing more specific practices though the "Non-Legally Binding Instrument on All Types of Forests" of 2007 (Humphreys 2006b, Capistrano et al. 2007, Asadi 2008). This document recognises the principle of "common but differentiated responsibilities" (which also appears in the 1992 Rio declaration on Environment and Development and the Framework Convention on Climate Change) (UN 2007) in which all states share responsibility for slowing and reversing deforestation, but accept that these responsibilities are not distributed evenly across states. While there is broad agreement on this policy *goal*, there is no agreement on what, precisely, this means for *specific* policy requirements "in the field." There continues to be no agreement on which states bear primary responsibility for forest conservation targets, nor which should provide financial and technological assistance to developing countries, nor how these funds and knowledge ought to be allocated. These are, to be sure, reinforced by long-standing political gridlock on these issues that is compounded by the issue of *sovereignty*.

Many developed countries want tropical countries to enter into time-bound and quantifiable reforestation and conservation targets, but the former are generally unwilling to meet the requests of the latter for financial and technical assistance to help them meet these targets. Most tropical forest countries want a global forest fund to help them conserve and sustainably manage their forests, yet most of these countries continue to insist upon unfettered sovereignty over their forests and are unwilling to agree to even soft and non-legally binding targets. Financing sustainable forest management remains an intractable issue with the April 2009 eighth session of the UNFF, which, once again, was unable to find a resolution.

447

23.3.5 Explaining the Role of International Forest Institutions

Why have international deliberations been relegated to developing abstract principles and goals and/or non-binding policies that they hope will influence more authoritative processes? Davenport (2006) attributes the failure of the negotiations squarely on the United States (US). She argues that the United States has not been prepared to invest money in a forest convention because it reasoned it would not be in its (strategic) self interest – a position it has maintained ever since the UNCED. However, others argue that much of the explanation lies with the mechanics of the United Nations' (UN) system itself, particularly the requirement of consensual decision-making processes in which it takes all states to say yes and only one to say no. This has led to the politics of the lowest common denominator, or what has been termed the "convoy principle" of decision making, in which all move at the speed of the slowest. States have concentrated on agreeing on text that is non-legally binding, but graduated in terms of normative strength. For example, in UN outputs, the words "requests" and "urges" indicate a higher priority than "recommends" and "encourages," which in turn are stronger than "invites" and "suggests." Though it may be difficult to tease out the relative weight of these different explanations, what is clear is that new forest-focused institutions at the regional, domestic, and local levels sought to bypass the overwhelming "rules of the game" governing international forest agreements.

The question of responsibility and power has arisen in all international forest negotiations, which affects the problems that international institutions recognise and to which they respond and *adapt*. While much primary tropical forest remains, very little of the original extent of forest cover remains in Europe; and in many regions in North America, second-growth forests have replaced "old growth" forests. The G77 has argued that the developed countries have an ethical responsibility to help pay for conserving the world's tropical forests as they continue to drive deforestation through high demand for forest products and for agricultural produce cultivated on deforested land. But the developed countries have refused to recognise this argument.

While there has been considerable discussion – and in some cases international agreement – on broad policy principles, the failure to agree to the practical details of these principles and how they should be interpreted has created an uncertain international policy environment which, in turn, poses a challenge for those national policy-makers who seek to translate these broad principles at the domestic level. One argument sometimes made for a forest convention is

that it would eliminate such uncertainties by providing a clearer and more predictable policy-making environment. Another is that a convention would rationalise and coordinate global forests governance. Global governance on forests has developed not according to any coherent rational design, but in an *ad hoc*, incremental, and multi-centric manner, with international forest policy-making scattered across an array of international institutions. According to VanderZwaag and MacKinlay (1996), a global forests convention could address, and counteract, "the 'increasing fragmentation' in the activities of international organisations with a forest-related mandate and the 'resultant duplications and inefficiencies'."

Against this, others have argued that a convention would be unlikely to solve the problem of international coordination on forests because there is no legal reason why such an institution should have a higher standing than any other free-standing legal instrument. Far from providing a more rationalised and harmonised treatment of forests in international law, a forests convention could, by adding another layer of international regulation, lead to further legal uncertainties and complications (Skala-Kumann 1996). Rather, the key question for this line of thought is not the primacy of a global forest convention, but how to build and nurture commitment for problem-focused institutions at the global, regional, national, and local levels.

23.3.6 Global Climate Negotiations and Forests

In part owing to the lack of an agreement on a binding global forest convention, many NGOs, stakeholders, and firms have increasingly sought to bring the forest problem under a global climate regime institution where, at least in terms of attention, intergovernmental efforts are much more advanced (Humphreys 2008). Linking forestry to climate change presents opportunities and challenges as various countries and stakeholders, motivated by a range of concerns and interests, attempt to shape responses and policy options. Understanding how climate institutions adapt to these pressures and focus simultaneously on emissions reductions and sustainable forest management (Karsenty 2008), will be critical for understanding when, and how, a climate regime might provide an opportunity to promote globally responsible forest policy development (Levin et al. 2008).

Emissions from deforestation and forest degradation were explicitly avoided under the 1997 Kyoto Protocol negotiations because of three key concerns. First, many environmental NGOs feared that incorporating forestry in a climate regime would take pressure off efforts to reduce emissions from

Matti Nummelin

Photo 23.1 Forests have received increasing attention in global climate negotiations. The extent to which the climate regime can address non-carbon challenges of forest governance, target drivers of deforestation and forest degradation, and reinforce efforts to alleviate poverty in local communities remains to be seen (Accra Climate Change Talks, Accra, Ghana 2008).

industrial activity. Second, reducing emissions from deforestation and forest degradation is focused on tropical forests in developing countries where there are no emission reduction targets.[1] Third, there is incredible complexity and uncertainty in accounting for such emissions reductions. However, since 1998, scientific information about the significant sources of emissions owing to tropical forest degradation (Curran et al. 2004), and economic analyses that reducing these emissions is more cost-effective than industrial emissions (Ebeling and Tippmann 2008) and may "buy time" before industrial emissions can be reduced, attention has shifted these politics to understand just how a post-2012 regime might go about incorporating forest-related emissions. At the same time, there exists considerable concern among those championing increased rights and access to forest resources that the current REDD negotiations, owing to neo-liberal norms, may favour global capital over

forest-dependent communities, biodiversity protection, and poverty alleviation (Rights and Resources Initiative 2009). Still others fear that a focus on carbon may reduce, rather than help, more purposeful prescriptions designed to limit the impact of commercial practices on natural forest ecosystems.

Much of the current interest in achieving protection for the world's forests through a climate regime can be traced to the 2005 Conference of the Parties (COP) 11 meeting in Montreal, when Papua New Guinea and Costa Rica led several other nations, collectively known as the "Coalition for Rainforest Nations" (Myers 2007), issued a paper calling for REDD to be placed formally on the climate agenda. This interest, spurred by the scientific data and economic analyses, was viewed as a way to entice developed countries to finally commit the resources and technical assistance needed for "on-the-ground" implementation that they had been largely refusing to do through the international forest regime institutions reviewed above. This time, developed countries showed strong interest, with COP 11 participants agreeing to have the standing scientific advisory committee, the Subsidiary Body of Scientific and Technological Advice (SBSTA), review the prospects of including forests under climate negotiations.

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[1] The exception was projects initiated under the "Clean Development Mechanism" (CDM) in which Annex I listed developed countries could initiate reduction targets in developing countries.

449

The political momentum to include REDD in a climate regime gained further traction at the December 2007 climate negotiations in Bali (Appleton et al. 2009). Deliberations were now focused not on whether, but on how, to include forests, and how to promote non-carbon benefits, known as REDD-plus (Appleton et al. 2009). Significant progress was made in identifying the resources that developing countries would need for capacity building, including monitoring, reporting, and verification. The UNFCC produced a document that outlined a two-year "road-map" to prepare for the 2009 Copenhagen meeting, and announced the creation of an *Ad Hoc* "Working Group on Long-term Cooperative Action under the Convention" to consider "positive incentives for developing countries to participate and to assess the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries."

The working group focused on four key questions. First, it assessed whether REDD policy goals should cover not only deforestation and forest degradation, but also conservation and sustainable management of forests. This is important because what happens to these broader questions within a climate regime will be critical for understanding the ability of a climate focus to promote the broader policy goals championed through international forest deliberations reviewed above.

Second, there have been vigorous discussions about whether efforts should be focused on project-level reductions, which some assert might more directly benefit indigenous communities in those cases where their own governments have not done so, versus rewarding and focusing on national policies and programs. Much of these debates are concerned about whether a national focus would create more logical "baselines" from which reduced emissions could be calculated, and help avoid "double counting" and "leakage" that can occur where sequestration in one project might inadvertently lead to increased emissions elsewhere. Still others argue that sub-national delineations based on forest ecosystems are often better than national "lines on a map" for calculating baselines.

Third, and reflecting neo-liberal norms, parties to the UNFCCC have considered two key policy mechanisms: market-based and fund-based mechanisms. Deliberations focused on the pros and cons of incorporating REDD activities into a "cap-and-trade" scheme versus a fund established to directly finance forest emission reduction efforts. While on the one hand a market-linked mechanism may provide a more adequate, stable flow of finance, a fund-based instrument can protect *sovereignty*, ensure that emissions are reduced in non-forest sectors, and be used for such indirect but "capacity-building" efforts that do not result in immediately quantifiable emissions reductions. (As our section below on knowledge institutions reveals, meaningful progress is unlikely without such adequate capacity.) There are also proposals to make a REDD mechanism linked to broader carbon market initiatives in which a steady stream of finance would be generated by the broader carbon market, but credits generated from REDD would not be fully fungible with non-REDD credits.

In anticipation of a successful intergovernmental agreement on REDD, several funds have been created for the purpose of providing financial incentives to developing countries to participate in, or become ready for, REDD projects. One significant effort is already being undertaken through the World Bank's Forest Carbon Partnership Facility (FCPF), which was launched in Bali in December 2007 (Gordon et al. 2007). The Partnership Facility is comprised of two parts: a mechanism for encouraging developing countries to undertake plans now in order to be ready once REDD plans are formally in place; and a carbon finance mechanism. The readiness mechanism includes support for REDD strategy development, monitoring, building baselines, modelling, and other activities that enhance national *capacity* to implement REDD policies. Similar funds include Australia's Global Initiative on Forests and Climate, and Norway's International Climate and Forestry Initiative. Funds vary in their approaches, with some aiming to finance the creation of enabling environments and *capacity* building, and others devoting efforts solely to those activities that can demonstrate observable carbon dioxide emissions reductions.

Fourth, Parties deliberated over policy *calibrations* involving just how to precisely monitor emissions reductions. These deliberations focused on whether spatially explicit data would be required, specific methodologies for interpreting this data, the monitoring of non-carbon attributes, and the degree to which safeguards should be established for biodiversity and indigenous forest-dependent communities. The Copenhagen Accord reveals that significant progress was made, particularly over the notion that there will have to be some type of "REDD-plus" orientation. Ongoing negotiations in 2010 will be key for understanding and assessing the impact of policy specifications and calibrations.

In anticipation of these final deliberations, the Copenhagen Accord established a Green Climate Fund designed to support REDD-plus activities (Appleton et al. 2009). As part of these efforts, developing countries were formally requested to: identify drivers of deforestation, establish national forest management systems, develop guidance for engagement of indigenous peoples and local communities in monitoring and reporting, and develop forest reference emission levels that take into account historical data and adjust for national circumstances.

While the climate negotiations have advanced in

the inclusion of forests and their emissions, the extent to which the climate regime can address non-carbon challenges of forest governance, whether they can target drivers of deforestation and forest degradation, and whether they reinforce or detract from efforts to alleviate poverty in local communities, remain the key questions for understanding whether climate institutions might provide for more effective, efficient, fair, and adaptive, rather than direct forest-focused international deliberations. We return to these questions in the Conclusions section by arguing that the outcome is not pre-ordained, but instead depends on whether a range of stakeholders take long-term strategic decisions that pay attention not only to immediate consequences facing their own organisations, but to building broader communities that are motivated by their roles as global citizens united in developing new and appropriate institutions.

23.4 Regional, Domestic, and Local Institutions

The failure of international efforts to develop a binding forest regime places in context not only why so many organisations turned to climate negotiations for amelioration of global forest challenges, but also why so much attention was placed on nurturing regional, domestic, and local forest institutions and processes since Rio. Two impacts of Rio and IPF/IFF/UNFF deliberations are noteworthy in this regard.

First, following Agenda 21, the development of regionally coordinated "national forest programs" that drew on overarching global principles was encouraged. It was hoped that these ideas would find formal expression through more authoritative national government policy objectives. It was in this context that creators of national forest programs in Europe and Canada (Howlett and Rayner 2006, Humphreys 2006b) pointed to the Rio Principles in general, and Agenda 21 in particular, to justify their development. Most national forest programs turned to long-standing knowledge and administrative institutions that contribute capacity-building functions, training, and scientific expertise (Howlett 2000) to help foster an enabling environment critical for meaningful progress. Whether and how these national forest programs influenced "on-the-ground" forest governance remains an open question (Humphreys 2004), but most important for our review is that these were largely introduced in developed countries, while capacity and training gaps, among other reasons, meant that few similar programs were initiated in developing countries.

Second, regionally focused intergovernmental "criteria and indicators" (C&I) processes were convened around the globe in which widespread efforts

were undertaken to define, rather than implement, sustainable forestry. [1] From these and related efforts, seven key goals/themes of sustainable forest management emerged. These produced a normative pull on sustainable forest management discussions and deliberations, reviewed below. [2] There is no question that criteria and indicator processes have been important for shaping problem definitions, bringing scientific knowledge to bear on "best practices" forest operations, and to emphasise, some argue, neoliberal norms of commercial extraction over alternative modes of production (Gale 1998).

Yet by 2001, there was a growing consensus that, instead of spending what appeared to be futile efforts to create widespread, prescriptive, and comprehensive global agreements, it made more strategic sense to focus on a smaller set of important baseline approaches that could be seen as "necessary but not sufficient." This meant that practitioners turned elsewhere to champion on-the-ground forest management changes that would draw, ultimately, on domestic governments' sovereign *authority*. That is, the strategy of many international organisations and government agencies focused on developing countries was no longer to reach binding international agreements, but rather, to nurture and support efforts by domestic developed country governments to promote "good forest governance" within their own boundaries.

Three goals emerged as central to these efforts: First, was the idea of promoting baseline governance in which questions such as corruption and legality came to be seen as critical in and of themselves (though never a panacea), but also as a prerequisite for more purposeful efforts that might follow their promotion. Second, was the promotion of the principle of "subsidiarity" in which decentralisation was championed as the "default" mechanism with which to promote fair and just allocation of forest "rights and resources" for forest dependent communities and indigenous peoples (Oram and Doane 2005, Ribot 2008). Third, was the idea of embracing the neoliberal idea of global markets, but with the added caveat of embedding into them social and environ-

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[1] Regional and C&I Approaches covered Non-European Temperate and Boreal Forests through the Montreal Process; Europe; The Amazon; Central America; Southeast Asia; Africa; as well as early efforts though the International Tropical Timber Organisation that covered 31 countries (McDermott et al. 2007: 48–50).

[2] These are 1) Extent of Forest Resources; 2) Biodiversity; 3) Forest Health; 4) Productive Functions Protective Functions; Socio-economic Benefits; Legal, Policy and Institutional Frameworks (McDermott et al. 2007: 3–7).

451

mental responsibilities.

Much of the concern focused in areas where forest problems and challenges are quite acute, including Southeast Asia, Africa, and Latin America. Unlike international deliberations reviewed above, most governments of most countries were generally supportive of the general idea behind these efforts to promote "good forest governance."

Since a complete review of the complex range of efforts that resulted from championing these goals is beyond the scope of a single chapter, we focus our review below on select examples of individual international organisation-centered efforts; regional multi-stakeholder processes; tenure reform; and domestic sustainable forest management regulations.

23.4.1 Single Agency Efforts

Our review of single agency efforts draws on two examples of efforts by the World Bank to promote improved forest governance in developing countries. The World Bank often takes a lead role among developing country-focused international agencies owing to its resources, including significant funding and a vast cadre of well-trained economists, and its overall championing of neo-liberal policies. It has had a significant, though often short-lived impact, along with the International Monetary Fund (IMF), in pressuring countries to undertake specific policy requirements, such as their insistence that Indonesia remove its raw log export restrictions (Goodland and Daly 1996), which, the World Bank and IMF officials, reflecting neo-liberal ideas, reasoned would promote economic growth and, as a result, alleviate poverty (Barr 2001). Recognising the importance of both "rule of law" and the importance of promoting development that sought poverty alleviation, the World Bank also promoted decentralisation efforts that would permit forest-dependent peoples to share in the potential prosperity that economic growth might provide. Its efforts in the Philippines and Cambodia in the 1990s to promote greater access and resource rights provide illustrative cases. In both countries, the hypothesis driving these efforts was that by better integrating forests into the local economy of rural communities, greater local commitment to forest conservation and sustainable forest management would ensue.

The Philippines

By the 1990s, the government of the Philippines was transitioning from its practice of allocating large timber concessions to industrial forest companies to an emphasis on "community-based forest management agreements" and "protected area community-based forest management agreements" (Oberndorf 2008). Much of the international community's efforts in helping to promote forest law and governance focused on providing mechanisms for local participation and enforcement. These efforts were championed through the establishment of "Multi-Sectoral Forest Protection Committees" (MFPC) that did not replace existing agency authority, but sat alongside seeking to provide capacity-building through coordination, information, and enforcement. Funded by the World Bank, the MFPCs comprised a range of stakeholders, including NGOs, the Catholic Church, and civic leaders. At their peak, over 300 community MFPCs were operating in the Philippines. The hope was that these institutions would provide for greater transparency and learning within forest-dependent communities, and would be instrumental in finding ways to promote sustainable use of the forest resource. Oberndorf (2008) reports, however, that increasing population and corresponding pressures on the forest, combined with inadequate resources, meant that the MFPCs project failed to achieve its objectives: "The gains made in stopping illegal logging operations and the transport of illegal forest products became difficult to sustain, as the MFPCs were simply unable to provide meaningful assistance to forest-dependent communities in developing viable alternative sources of livelihood" (Oberndorf 2008). As Kaimowitz (2003) has articulated, this case illustrated the broader conundrum of the uneasy relationship between efforts to curb illegal logging and the impacts of such efforts in both the short and long term. As for MFPCs in the Philippines, they have followed a rather typical – albeit unfortunate – pattern in which funding has now largely dried up. This example illustrates our interest in identifying the processes through which *durable* institutions might be nurtured. For further information on the development of community forestry in the Philippines see Chapter 19.

Cambodia

Cambodia offers a different story for students of forest law enforcement and governance (Luttrell 2008). A history of forestry exploitation and degradation in Cambodia can only been seen in the context of the legacy of its long history with conflict. Luttrell (2008) explains that the 1980s and 1990s witnessed such mismanagement and corruption within the forest sector that it contributed greatly to disorder and conflict. The international community then saw the promotion of forest law and governance as a way of breaking out of its resource/conflict cycle. As a result, the World Bank and other donors created the "Forest Crimes and Monitoring and Reporting Project" (FCMRP). This project was innovative in creating an

"independent monitor" with which to oversee operations conducted by two key administrative institutions: Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Environment. The Cambodian government was reluctant over concerns regarding national sovereignty. However, it felt pressure to accept the oversight as it was heavily dependent on foreign aid and, at the time, had a desire to improve its standing in the global community (Luttrell 2008). The World Bank's incentive was to provide a USD 30 million structural adjustment loan. This "tipped the scales" and the Cambodian government agreed to support independent monitoring. However, the contract for oversight was awarded to an NGO with an activist agenda, Global Witness. Its role as auditor/verifier and policy advocate, which had long been critical of Cambodian policy, immediately created tensions between them and the government. Eventually, the government broke off the arrangement and a new, more truncated oversight was awarded to an international certifier and auditor known as SGS. Eventually, oversight ended. Debates continue about the short- and long-term effectiveness of this approach. On the one hand, the profile of illegal logging was raised. On the other hand, Luttrell (2008) argues that little long-term change occurred on the part of the government of Cambodia, and that donors are now reluctant to maintain involvement.

Given this review, it is clear that there is a strong need to share learning about when FLEG efforts appear to work, as well as the bottlenecks and difficulties in implementing them (Ribot et al. 2004, Rudel 2005, Humphreys 2006a). There are, to be sure, significant differences across cases, but also similarities, the most important of which may be the significant challenges in institutionalising short-term projects into ones that are sustainable in the long term.

23.4.2 Regional Co-operation: "Good Forest Governance" Networks

Recognition that short-term results of individual agency-focused efforts did not always yield long-lasting support for existing or new governance institutions, led a variety of stakeholders, including international agencies, NGOs, and domestic governments, to develop a range of broader regional ties. Many focused on fostering learning networks about what policy instruments and approaches might create "win win" solutions, and to the identification of strategic allocation of resources to countries and civil society partners.

While a thorough review of these efforts is beyond the scope of this single chapter, we turn to a range of efforts to build "good forest governance". These initiatives have, ultimately, coalesced around two specific policy interventions: efforts to reduce illegal logging and, related, "corruption." Corruption itself has been further distinguished between unauthorised payments sometimes demanded by high level officials for access to resources from those that are given to low level and poorly paid officials for informal access to forest resources (Byron 2006).

The Problem of Illegality

Illegal logging has been applied narrowly to such practices as "timber theft," and broader issues such as government corruption and failure to comply with domestic environmental laws. At the heart is a concern for often unresolved issues of who gets the right to forest and land tenure. Disputes over land tenure are common in many forested areas and create legal ambiguity over timber harvesting rights. On publicly owned lands, a major source of illegality lies in the fraudulent and corrupt distribution of logging concessions. Outright forest theft is the practice most consistently associated with illegal logging. Theft may occur either inside or outside of legal harvest boundaries, and includes unsanctioned logging in protected areas, such as riparian zones. In addition to illegalities associated directly with harvesting, laws may be violated in the transport, processing, and/or trade in harvested forest products. Likewise, illicit accounting practices are common in some developing countries, including the use of transfer pricing to avoid full payment of taxes (FAO 2001). Some have asserted that bureaucratic procedures can push people to illegality. For example, in Nicaragua, cases have been documented when timber has had to be transported across more than one municipality with each one "charged" illegal taxes, thus encouraging increased illegality (Larson 2003).

This lack of a standardised definition of illegal logging, together with a lack of recorded data, makes it very difficult to determine its precise extent (Tacconi 2007). Nevertheless, very rough estimates that do exist tell a compelling story. Estimates of illegal wood exploitation for a number of developing countries range from 50% to 90% of the total harvest (Table 23.1). The impacts of these illegal activities extend well beyond the boundaries of individual countries. The World Bank (2005a, 2005b) has estimated that the illegal timber trade has resulted in a collective loss of USD 10 billion to the global marketplace, as well as losses of government revenue totalling USD 5 billion. Illegal logging undermines efforts to promote sustainable forest management by driving down prices. Illegal loggers avoid developing management plans, paying taxes, and securing logging permits. The environmental and social impacts that result are profound. Illegal logging plays a critical role in tropical deforestation, forest degra-

453

Table 23.1 Estimates for illegal wood exploitation.

Country	Estimated % of wood harvested illegally
Bolivia	80
Brazilian Amazon	85
Cambodia	90
Cameroon	50
Colombia	42
Ghana	34
Indonesia	51
Myanmar	80
Russia	20–50

Source: ITTO 2002. The ITTO data is based on a wide range of sources employing different measurement methodologies.

dation, and the resulting loss of forest productivity and biodiversity (Brown et al. 2008). Its damaging impact occurs both directly, through irresponsible logging practices, as well as indirectly, through diverse means such as the opening of forest frontiers to resource exploitation and land use conversion. From a social perspective, illegal logging robs local forest-dependent communities of their livelihoods and contributes to a range of social ills from abusive labour practices to enslavement and violence (Brown et al. 2008).

The causes of illegal logging can be traced, at one end, to a lopsided global economy involving rapidly increasing and uneven resource consumption coupled with governance structures ill-equipped to moderate the impacts of global trade. At the other extreme, causes can be traced to subsistence forest use and conversion, a problem in virtually every country worldwide, but far more pronounced in the Southern Hemisphere (Tacconi 2007). As such, it presents a major opportunity for long-term North-South collaboration to address global environmental degradation and poverty. However, as Kaimowitz (2003) has noted, the precise nature of mechanisms designed to promote forest governance will affect whether they improve, or make worse, the plight of forest-dependent peoples. This diversity of concerns has helped to put the issue on the global governance map; however, it has also created numerous pitfalls that only durable institutions that enjoy long-term support may be able overcome.

Domestic Support for Regional Processes: FLEG and FLEG-T

What have been the results of regional efforts to promote good forest governance and curb illegality? We see strong support within developed and developing countries. In fact, the alignment of country support for multi-lateral action on illegal logging stands in stark contrast to the global forest negotiations. The United States, one of the countries most resistant to binding global forestry agreements, has shown strong and sustained commitment to putting illegal logging on inter-governmental agendas. One of the first movers in promoting legality in the late 1990s, the US – after initial frustrations with limited efforts in promoting this approach through the UNFF, ITTO, and the CBD – began to pursue alternative strategies (McAlpine 2003). It did so by linking with the United Kingdom to spearhead the development of a G8 [1] "Action Programme on Forests" in which legality was one of five focal areas.

Similar support has occurred in developing countries. In large part, this support can be traced to the recognition by governments of the strong economic and governance benefits of focusing forest law enforcement and governance efforts around baseline issues involving legality and crime (World Bank 2006), which stand in contrast to the overwhelming array of challenges that a global forest convention and certification efforts had focused. This approach paved the way for the emergence of regional "Forest Law Enforcement and Governance" (FLEG) processes. Co-hosted by producer and consumer countries and the World Bank, key early FLEG outputs include an East Asian FLEG Ministerial Declaration in Bali in 2001, followed by Ministerial declarations in Africa (Yaoundé 2003), in Europe, and in North Asia (St Petersburg 2005), as well as initial talks in Latin America. As a result of these declarations, a number of projects and initiatives have been created to promote FLEG at various scales and regions (Kaimowitz 2003; Perkins and Magrath 2005; World Bank 2005a, 2006, 2007; Magrath et al. 2007; Brown et al. 2008).

In the Association of Southeast Asian Nations (ASEAN) countries, regional FLEG processes opened the door for new initiatives and experiments within and across countries (Brack 2005, Cashore 2006, BBC 2007, Ching 2007, Brown et al. 2008), with varying involvement of civil society and forest sector stakeholders (Thang 2008). Many of these FLEG processes focused much of this effort on building greater capacity for enforcement of existing laws (Tacconi 2007), reducing contradictory legal

[1] The Group of Eight includes France, United States, United Kingdom, Russia, Germany, Japan, Italy, and Canada.

regimes, enlisting NGOs to monitor on-the-ground activities, and reducing high levels of illegal logging through labelling and market access (FAO 2005, FLEG News 2007, Brown et al. 2008).

Meanwhile, ENGOs (environmental non-governmental organisations) were actively involved in raising awareness regarding the role of developed countries as drivers of illegal logging. NGOs targeted Northern consumption as a means to address illegal logging; i.e., they reasoned that it was as important to address the demand side of illegal trade as it was to restrict the supply side. FERN and other ENGOs estimated that 50% of the EU's (European Union's) imports from tropical forests, and 20% from boreal forests, might be traced to illegal sources (FERN 2002). While these figures would vary depending on an individual country's primary sources of tropical timber, the problem is certainly not confined to Europe. For example, figures compiled by the Brazilian Trade Ministry show the US as the largest importer of Amazonian wood products, accounting for 28% of the total dollar value of timber products exports (Greenpeace 2003). If roughly 85% of the Amazonian wood products trade is illegal, then without relevant precautions, the US provides ample demand for illegal Brazilian wood.

No doubt spurred by these NGO efforts, as well as the G8 Programme on Forests and World Bank-facilitated regional FLEG processes, in 2003, the European Commission produced the Forest Law Enforcement, Governance, and Trade (FLEGT) Action Plan. This plan includes strong demand-side measures, calling on EU member countries to turn to the marketplace and timber-tracking to eliminate demand for illegal logs and, consequently, promote good governance. Key components of the FLEGT process are bilateral agreements, known as Voluntary Partner Agreements (VPAs), with individual countries to eliminate imports of illegally harvested logs – agreements that side-step WTO because both the exporting and importing countries voluntarily adopt them. Timber shipped between the EU and a VPA country must be accompanied by a license. The first FLEGT VPA was agreed with Ghana in 2008, followed in 2009 by a VPA with the Republic of Congo. At the time of writing, the EU is involved in VPA negotiations with four other countries: Cameroon, Indonesia, Liberia, and Malaysia.

Whereas the EU's VPA approach relies on bilateral agreements with individual producer countries, the US has pioneered a domestic legislation approach to demand-side control. In May 2008, the US Congress passed an amended and updated version of the Lacey Act (effective 15 December 2008). The original Lacey Act was enacted in 1900 to prevent transportation of illegally captured wildlife across state lines within the United States. The 2008 amendment prohibits commerce in plants, including timber

and wood products that are illegally sourced in any country. Importers are required to declare the species and origin of harvest of all plants. Penalties for violation of the Lacey Act include forfeiture of goods and vessels, and imprisonment. The European Commission has since developed a proposal for similar trade legislation, referred to as the Due Diligence Regulation (DDR), to prevent the import of illegal wood into the EU from all sources. Unlike the US Act, however, the DDR requires only "reasonable assurance" that wood products are legally produced (Baumüller et al. 2009). Together, the amended Lacey Act, EU VPAs, and DDR will make some inroads into the international trade of illegally logged timber, although they will fall short of a comprehensive multilateral prohibition.

In terms of government strategies, the above illegal logging initiatives indicate political interest in region-specific approaches, whether and how they might result in better enforcement, which often puts at risk those charged with enforcing laws. While perhaps providing a useful venue for baseline problem solving, clearly such steps are not by themselves adequate to address the monumental and systemic challenge of forest governance in developing countries. This is in large part because control of illegal logging is by its very nature a local phenomenon, which is often highly complex and sometimes dangerous for forest managers to address.

Whether a focus on legality can provide more enduring institutions will depend, in part, on whether long-term incentives for enforcement can be achieved. Some of this effort will come from NGOs, such as the Environmental Investigation Agency, whose reports on illegal trade of logs from Indonesia to Malaysia are working to place these issues on the agenda. Other enforcement mechanisms may come from the US Lacey Act amendments themselves. As US importers appear to have a self interest in policing competitors, since any reduction in illegal imports to the US market will benefit the market share of legal importers. Certainly the initial prosecution of a leading US-based guitar manufacturer (Lind 2009) appears to have created significant concern across a wide ranging set of importers to ensure that wood in the products they are importing does conform to legality standards.

23.4.3 Domestic Initiatives: Tenure Reform

In the last 20 years, a great deal of scholarly attention has been placed on better understanding what types of local institutions promote enduring social and economic stewardship. Many of these scholars focus on resource-depletion questions (Hardin 1968),

455

and emphasise the importance of developing meaningful and appropriately designed local institutions whose purpose is to manage economically important resources for long term "sustained" yields so that resource depletion does not occur (Ostrom 1990). For these scholars, how to provide for meaningful delegation of authority over resource management, and how to determine appropriate geographic scope and community size are key central questions surrounding the development of effective and appropriate local institutions (Agrawal and Goyal 2001). Proponents of these approaches often draw on the principle of "subsidiarity:" "…the idea that the best level for policy and procedural decisions is the most local possible level at which decisions are not likely to produce negative effects for higher scales of economic, social, or political-administrative organisation" (Ribot 2008). The principle of subsidiarity stands in contrast to findings in some countries that when a resource conflict becomes nationalised, environmental values tend to gain greater dominance over commercial activities than when they remain largely localised (Hoberg 1997).

How subsidiarity impacts such power dynamics, and whether it can lead to more effective environmental outcomes, is a question that requires understanding how tenure institutions intersect with other governance and capacity-enhancing institutions. One hypothesis implicit in current research is that the subsidiarity principle works well for open access resources in which people have a self-interest in creating institutions to promote long-term resource sustainability. The subsidiarity principle does less well when the focus is on broader ecosystem management values that are either difficult or impossible to reduce to self-interest utilitarian calculations.

These issues are central for understanding tenure reforms because, for the most part, the literature focuses on the anthropogenic collective action dilemmas that figure so prominently in Ostrom's work on "common pool resource" institutions (Ostrom 1990). Ostrom's work with colleagues is important because she challenges Hardin's argument that collective action dilemmas require either pure privatisation or pure public ownership. She argues, and finds, that institutions that govern local communities can draw on a range of specific rules appropriate to the local context to govern collective or community engagement to limit resource depletion.

What we know is that tenure reform can promote incentives for institutional compliance among local communities, as well as the capacity to effectively implement institutional requirements. Often these reforms require that national governments *share* revenue with local communities so that they have the capacity and incentives when delegated to manage and protect local resources (Agrawal and Ribot 1999, Ribot et al. 2004, Ribot 2008).

Tenure: Overview

The future of forests depends very much on the institutional arrangements that regulate land and forest tenure. Most of the world's forests (84%) are officially in public ownership. In Asia (94%) and Africa (98%), forests are almost entirely under public ownership. In central and south America, public ownership is less dominant (43% and 75% of forest area, respectively) (FAO 2005a). However, often the governments in these regions have not been able to manage and control the forest resources that are officially under their control. In many cases, forest resources have, in practice, been under *de facto* open access[1] leading to deforestation and forest degradation, which continue at alarming rates in many countries (FAO 2007).

Changes in forest tenure that aim to clarify rights and responsibilities with respect to forests have become important elements in the policies towards sustainable management of forest resources. At the same time, they also aim at livelihood improvements and poverty reduction (Knox and Meinzen-Dick 2001). The pressures to recognise indigenous peoples' rights to land and resources support the clarification and formalisation of forest-related rights. It has often been assumed that customary tenure systems would disappear with population growth, economic development, technological change, and increased land scarcity. However, diverse customary, and in most cases community-based, resource management systems continue to prevail in rural areas in many developing countries (Bruce 1999). In sub-Saharan Africa, *de facto* land ownership is still dominantly based on customary land tenure systems (Nelson 2001). The dichotomy between the national statutory laws and customary land tenure and resource management systems has prevailed from colonial times to the present (Bruce 1999, Barrow et al. 2002). Overlapping statutory and customary tenure systems have led to disputes and competing claims over land and natural resources. Conflicting law authority has confused and undermined the security of both systems (Christy et al. 2007) and contributed to the disempowerment of local people and communities in controlling and managing forest resources (Poffenberger 1999). The ongoing changes in forest tenure also aim to address this dichotomy through codifying and formalising customary rights.

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[1] Under an *open access regime* there are no property rights and no defined group of users or owners, and the benefit stream is available to anyone (Bromley 1991).

Photo 23.2 In Laos, the management of village forests (defined through the land use planning and land allocation process) is based on a management agreement between village authorities and district forests authorities.

Marko Katila

The Extent of Change

Systematic information regarding forest area owned or managed by communities in different parts of the world is not readily available. However, various studies suggest that an increasing share of forest land is under some degree of formal community management or ownership (White and Martin 2002, Reeb and Romano 2006, Sunderlin et al. 2008). In the world's 25 most forested countries (covering 80% of global forests), the forest area owned by communities and indigenous peoples increased from 246 to 296 million ha between 2002 and 2008 (from 7.7% to 9.1% of the forest area). During the same period, the area designated for use by communities and indigenous peoples increased in these countries from 49 to 76 million ha (from 1.5% to 2.3% of the forest area). However, eight countries (Australia, Bolivia, Brazil, Cameroon, Colombia, India, Sudan, and Tanzania) account for almost all of the net increase in the area of lands designated for and owned by communities and indigenous peoples (Sunderlin et al. 2008). For example, the forest area owned or managed by local communities, user groups, or individuals covers about 18% and 10% of the total forest area in 17 South and Southeast Asian and 17 African countries, respectively (FAO 2006, Romano and Reeb 2008). In South and Southeast Asia, over half of this area is owned or managed by communities. However, as formal community ownership is insignificant in these countries, this area is basically under different joint forest management or lease systems or under arrangements where local communities have been granted certain use rights.

Changes in Property Regimes

The changes in land and forest tenure are put into practice through changing the policies and legal frameworks that define property rights to resources. Property rights define the relationship between the rights holder and all others in respect to something of value (Bromley 1991). By defining the rights to access, use, and manage forests, and by allocating decision-making authority over the resource, property rights define local peoples' options and possibilities to use forest resources for subsistence or for income (Libecap 1989, Weibe and Meinzen-Dick 1998). In many developing countries, the changes in the legal framework involve a clear tendency to clarify and enhance the rights of local communities (Christy et al. 2007) and to involve local communities and indigenous peoples in different ways in forest management and conservation (Alden Wily and Mbaya 2001, Edmunds and Wollenberg 2003, Katila 2008, Pacheco et al. 2008). Through defining who can access and benefit from resources across time, property rights also have a profound influence on the incentives for the conservation and sustainable use of forests.

The ongoing change in forest tenure is leading to different kinds of property regimes where the forest-related rights and responsibilities are divided in various ways between the state and local actors (Alden Wily and Mbaya 2001, Edmunds and Wollenberg 2003, Katila 2008). In most countries, the forest tenure change has involved villages (e.g., in Laos and Tanzania), local communities (e.g., in Vietnam and Mozambique), user groups (e.g., in Nepal), or associations (e.g., community forest associations in Kenya) in forest management. The allocation of forest land to individual households has been much

457

less common. However, in China, Laos, and Vietnam, for example, bare or degraded forest land has been contracted or allocated to households.

Based on the degree to which the decision-making authority is devolved to the local level, the approaches in forest tenure reform can be broadly divided into benefit-sharing and power-sharing approaches (Alden Wily and Mbaya 2001). In the benefit-sharing approach, local co-operation in forest protection and rehabilitation, for example, is gained by granting communities legal rights to harvest certain forest products and/or through offering employment opportunities or a share of timber revenues (e.g., in India, Kenya, and Mozambique). In the benefit-sharing approach, the management authority rests, for the most part, with the state. Especially in relation to valuable forest resources, the rights to control who can access and benefit from the resource, and to decide how the resource is managed and developed are still mainly held by the state. In most cases, local communities have gained legal rights to non-timber forest products (NTFPs) and subsistence-use wood products. However, sharing of economic benefits with local communities has, in general, been rather limited (see Kellert et al. 2000, Knox and Meinzen-Dick 2001, Shackleton et al. 2002, Sarin et al. 2003, Behera and Engel 2006, World Bank 2006, Hobley 2007, Katila 2008).

The power-sharing approach includes a real transfer of management authority to the local level. Despite the global focus on enhancing poverty alleviation and on strengthening local peoples' voice in natural resource management, to date, the benefit-sharing approaches have dominated, and the transfer of rights to control and manage forest resources has been rather limited (e.g., Shackleton et al. 2002, Sarin et al. 2003, Behera and Engel 2006, World Bank 2006, Hobley 2007, Katila 2008). Only in a handful of cases, such as community forests in Gambia and village land forest reserves in Tanzania, has changes to forest tenure resulted in the direct transfer of ownership of land and/or forest resources to local communities.

In some cases, the rights to land and forests resources are separated, and secure land rights do not include rights to timber. In Mozambique, for example, according to the land legislation, communities can apply for formal title and formalise their land rights to land that they have traditionally occupied (Government of Mozambique 1997). However, the forest legislation grants communities only the rights to subsistence use of forest resources even on titled community land (Government of Mozambique 1999). Communities need to be *consulted* when rights to commercial utilisation of forests (forest concessions and licenses) are allocated. This provides an opportunity for communities to negotiate with the license/concession applicants about employment or infrastructure development, but they do not have the authority to block concessions (Johnstone et al. 2004). Legislation also requires that communities receive 20% of the revenues from license/concession fees, but existing research indicates that due to poor implementation of this policy, communities have not benefited from the commercialisation of forest recourses, as was envisaged (Salomão and Matose 2007). [1] While it is possible for communities to apply directly for forest concessions, the timber processing requirements demanded of license holders reduce the likelihood that they will do so (Ashley and Wolmer 2003).

Experiences from Forest Tenure Change

An array of practitioner and scholarly research has found that limited rights, or the lack of security of the rights, have undermined the anticipated positive effects of the tenure change and curtailed the benefits to local people (Agrawal and Ostrom 2001, Edmunds and Wollenberg 2003, World Bank 2006, Lund and Treue 2008). Similarly, restricted or insecure rights to forests undermine communities' possibilities to benefit from the development of markets for environmental services (Landell-Mills and Porras 2002, Molnar 2003). Lack of rights or regulatory barriers to extract and process forest products are, many argue, the reason why local communities have been impeded from benefiting from forest certification (Molnar 2003). [2]

In many cases, local level actors have gained rights to degraded forest areas. Within these areas, it has proven to be difficult to create sufficient benefits based on forestry activities in the short term (Springate-Baginski and Blaikie 2007). In an effort to promote alternative sources of income, many donor-funded projects have focused on creating immediate benefits in these degraded areas. In a handful of cases, positive results have accrued, such as the development of "non-timber forest products" in Laos (Morris et al. 2004, Singh 2005b), and lokta-based paper production in Nepal (Singh 2005a).

In some exceptional cases, where communities have been able to develop commercial timber production, considerable employment and income for community members and for community development projects has resulted. See Auzel et al. (2001) for small-scale logging in Cameroon, Singh (2005c) for

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[1] For instance, community concessions in Guatemala provide rights, but not tenure.

[2] Less than 4% (about 4 million hectares) of the Forest Stewardship Council (FSC) certified forests are forests owned or managed by communities (FSC 2009).

community sawmill development in Nepal, and de Camino and Breitling (2008) for community concessions in Guatemala.

Likewise, secure rights to forests resources in local communities and villages in Gambia and Tanzania led to significant capacity building and local investments that combined to promote sustainable resource management (Lund and Treue 2008, Romano and Reeb 2008). At the same time, this and related research (Ribot and Peluso 2003, Nguyen 2005) has found that formal access to resources must also be matched with the capacity to invest in appropriate technological, capital, and labour requirements.

Other Important Considerations Relating to Land Tenure Reform

As expounded in the "Capacity-enhancing institutions" section below, training and retraining of forestry officials is key for ensuring that tenure reforms lead to improved local livelihoods and sustainable development. Researchers have found that key training efforts should include educating community organisations about their legal rights, and how to enter into contracts, collect fees, and apply for subsidies and credit (Lindsay 1998).

Existing research has found that access to credit – needed for supporting investment in developing forest resources, small-scale forest-based enterprises, and capacity building for NTFP or wood-based production and marketing – is missing from many current decentralisation efforts (Scherr et al. 2003). When such factors are present, there is evidence that incomes and employment can increase (Molnar et al. 2007).

Some argue that privatisation, or partial privatisation, of rights can create incentives for investing in tree planting or support the development of agroforestry systems. However, the experiences from forest land allocation in Laos and Vietnam have shown that the effects of forest land allocation are location-specific and vary according to the household characteristics (amount of land, labour), geographical location (access to markets), and natural conditions that largely determine the production options for farmers. The livelihood effects have been closely connected to the amount of land the households have for food production; only better-off households can afford to invest in tree planting. In areas with sufficient amount of land for food production, forest land allocation and contracting has increased forest cover and the quality of the forest.

On the other hand, the impacts of forest land allocation have been small or even negative on the livelihoods of resource-poor households that suffer from food shortage (Hanoi Agricultural University 2001). In Laos and Vietnam, one of the objectives of land allocation in upland areas has been to reduce the amount of land used for shifting cultivation. However, in the upland areas, the options for permanent cultivation are limited. Due to the decline in soil fertility, the forest land allocation and limitation on the amount of land that can be used for shifting cultivation, has led to diminishing crops (Hanoi Agricultural University 2001, Castella et al. 2002, Morris et al. 2004, Rock 2004). On the other hand, in some countries favourable market conditions and the declining availability of forest products from natural forests have increased tree planting on private agricultural lands on small farms. This has been the case, for example, in the Philippines and Kenya (Bertomeu 2006, Carsan 2007).

The above clearly emphasises the importance of the careful assessment of the role of forest resources in the livelihood systems, and the production options available to the local people when considering the options for and the production possibilities created by privatising rights to forest land. In developing countries, forest land and trees should be seen as important components of the diversified production systems that form the basis for most of the smallholder agriculture. This is also relevant for the different community-based forest management models.

Experience from Nepal has shown that the condition of forests under community management has generally improved, leading to increased availability of forest products (Dev et al. 2003, Yadav et al. 2003). It has also increased livelihood opportunities through employment and new income opportunities. However, the poorest community members, who are most dependent on forest products, have often benefited less from community forests than the better-off community members (Neupane 2003, Adhikari et al. 2004, Adhikari 2005, Dev and Adhikari 2007). The reasons for inequitable livelihood outcomes relate to the distribution of power among local actors, inequitable participation, and inequitable skills and capacities to benefit from resources.

Policies to strengthen local democracy and participation will need to address the fundamental socio-economic and cultural factors that lead to the marginalised position of women (for example) and the poorest community members in the forest resources-related decision-making and benefit-sharing. The legitimacy, representation, and accountability of the organisation to which the management powers are devolved are crucial for equitable outcomes. In most cases, these organisations have been accountable to forest authorities rather than the local people (Ribot 2002, Hobley 2007).
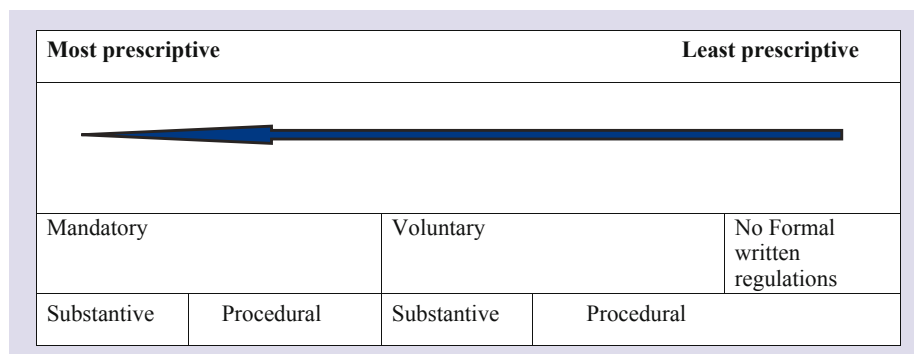
Most prescriptive			Least prescriptive
Mandatory		Voluntary	No Formal written regulations
Substantive	Procedural	Substantive	Procedural

Figure 23.2 Regulatory policy approaches and direction of increasing policy prescriptiveness. Adapted from Cashore 1997 and McDermott et al. 2010.

23.4.4 Domestic Initiatives: Regulatory Responses

The above section was important for reviewing what types of tenure arrangements governments have introduced to promote greater clarity over resource use, and to describe their balancing act in promoting economic development consistent with a neo-liberal agenda on the one hand, and an effort to involve forest-dependent stakeholders on the other. This review has reinforced the need to understand just what types of institutional configurations, including closed- and open-access arrangements, are needed to promote long-term sustainability over natural resources. But what about the content of the regulations such institutions develop? What, precisely, do policy specifications say about key "on-the-ground" forest management practices? How do they change behaviours to minimising impact on the natural environment, such as those in riparian zones? For an answers we draw on McDermott, Cashore, and Kanowski's (2010) study of environmental practices policy specifications (the upper level right cell in Figure 23.1).

To answer this question, they develop a measure of the degree of "prescriptiveness" that unites a focus on "structure" and "method" (Figure 23.2). They first ask whether a policy is mandatory or voluntary. Then whether a policy emphasises procedures ("systems-based" policies) or is "substantive" (often referred to as "performance-based" policies) that directly requires a particular behaviour when undertaking forest practices (Cashore 1997). [1] McDermott, Cashore, and Kanowski also review the actual thresholds governing particular problems, such as riparian zone management. They find that a large majority of jurisdictions have developed mandatory substantive policies for riparian zones (Tables 23.2 and 23.3). However, some Western European countries have not standardised their buffer requirements, and a few regions of the world have taken an exclusively procedural approach (Madya Pradesh, New Zealand, and South Africa). There are voluntary substantive policies in around a quarter of the cases studied, almost exclusively from the US Southeast. Some of the greatest variation occurs at a sub-national level. The US Pacific Northwest has taken the most prescriptive approach, while the US Southeast is among the least prescriptive. However, the US federal "Clean Water Act" has exerted a moderate levelling effect on this difference, since compliance with voluntary buffer guidelines in the US Southeast can be regarded as proof of "due diligence" in meeting the requirements of the Act.

Two striking findings emerge from their research. First, environmental prescriptions governing forest practices are *lowest* on private land in developed countries. This finding stands in contrast to those who evoke Hardin and neo-liberal norms to assert that private land is better managed. Second, it is *not* the case that only developed countries have high environmental forest practices specifications. Many developing countries have rules at a higher threshold level and prescriptiveness than jurisdictions in wealthy developed countries. The implications are important. Instead of focusing on sovereignty infringing international agreements regarding binding forest practices that many developing countries already have developed within their domestic policy, international efforts might be better placed on helping them develop capacity to enforce and implement these rules on the books, with the ultimate goal of promoting behavioural changes.

At the same time, recognition that policy specifications show a high degree of prescriptiveness does not mean that these translate into observable be-

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[1] As Figure 23.1 illustrates and McGinley (2008) finds what matters most is understanding the direct and indirect effects of these regulations on behaviours and the environmental, social and economic challenges to which regulations are focused.

Table 23.2 Average # of regulatory parameters[1]/ size classes per case study for streamside riparian buffer zones by region.

	Average # of classification parameters	Average # of buffer size classes
N America	3.2	5.5
(US PNW)	7.7	13
W Europe	0.8	1.5
Asia	0.5	1.5
E Europe	1	4
L America	2.3	6.7
Oceania	2.3	6.6
Asia	0.5	1.5
Africa	0.5	1

Source: McDermott et al. 2010.

[1] The objective of this table is to give an overall sense of complexity. The precise number of parameters would vary depending on how fine or coarse the analysis. For example, classifications that specified "fish" presence in this case were distinguished from those specifying "anadromous" fish. However all "soil" parameters were lumped into one category due to the complexity and variation in soil classification systems.

Table 23.3 Average level of prescriptiveness by level of development and land ownership type across five environmental practices measures (riparian buffers, road building, clearcutting, reforestation, annual allowable cut) (Scale 0–10, 10=most prescriptive, 0=least prescriptive)[1]

Level of development*	Public	Private	Communal	Total
Developed countries	8.8	3.4	N/A	6.1
Developing countries	6.7	6.0	7.0	6.6

*Level of development addresses the relative per capita Gross Domestic Product (GDP) and Human Development Index (HDI) ranking. Based on data from 2004 (which is the most recent data included in FAO forest resources inventories), "developing" refers to countries with a per capita GDP of less than USD 10 000 and an HDI ranking below the top 33 countries worldwide. "Developed" refers to the rest.

[1] Because this hypothesis is attempting to identify broad trends that result from our focus on riparian zones, this table presents data from our broader regulatory analysis that includes, in addition to riparian zone regulations, four other areas that concern practices of forest management: clearcutting; annual allowable cut; road building, and reforestation, all of which are detailed in McDermott et al. 2010.

havioural changes. Many developing countries lack the resources, capacity, and training with which to ensure they translate into on-the-ground behaviours; and many appear to have developed these policies without any serious intention of following through on enforcing them. Understanding and closing the gap between formal policy requirements and their effective enforcement or application in the field is a critical need. Indeed, this is the crucial issue at the center of understanding the ability of forest institutions to adapt to new challenges, reinforcing our point in 22.6 that this relationship must be seriously and systematically integrated by political and policy scientists into their research on governance institutions.

23.5 Non-State Governance Institutions

Ever since the early 1990s, many forest-focused stakeholders turned to creating non-state institutions, many of which focused on market-based incentives, to see if they might be able to improve management practices in the field (Auld et al. 2010). Much of the explanation for this focus can be found on the part of ongoing frustrations about the inability of the international and state-centred processes reviewed above to adapt to, and ameliorate, the range of accelerating problems. We focus our review on three distinct but related efforts that have been important for understanding the emergence of private institutions governing global forests: forest certification, corporate social responsibility initiatives, and NGO-industry partnerships.

461

Table 23.4 Key Features of NSMD governance.

Role of the state	State does not use its sovereign authority to directly require adherence to rules
Institutionalized governance mechanism	Procedures in place design to created adaptation, inclusion, and learning over time across a wide range of stakeholders
The social domain	Rules govern environmental and social problems
Role of the market	Support emanates from producers and consumers along the supply chain who evaluate the costs and benefits of joining
Enforcement	Compliance must be verified

Source: Adapted from Cashore 2002; Cashore et al. 2004a, b; Bernstein and Cashore 2005.

23.5.1 Forest Certification

A decade and a half ago, one of the most innovative institutions in global forest management was created through the global supply chain-focused institution known as "forest certification" or "non-state market-driven" (NSMD) global governance. The idea of certification was first raised at the international level by NGOs in the context of the ITTO in 1989 (Gale 1998, Elliott 2000). The idea of product labelling was met with resistance from tropical producer countries, and never evolved within the ITTO beyond the level of "research" and debate." This limited effort, combined with a general frustration of many of the world's leading environmental groups over the failure of intergovernmental efforts to achieve a binding global forest convention, led the World Wide Fund for Nature (WWF) to spearhead a coalition of environmental, social and business activists to establish the Forest Stewardship Council (FSC) certification program in 1993. The approach of the FSC was designed to address many of the asserted failures noted above. First, it promoted a governance approach in which business interests could not dominate the policy-making process – a direct rebuke to their concerns that many domestic and intergovernmental efforts appeared "captured" by the very business interests they sought to regulate. However, instead of dismissing neo-liberal ideas that so many argue were at the heart of the business captured and institutional failures noted above, FSC strategists sought instead to embrace global markets by "embedding" in them socially and environmentally responsible business practices.

This means that, if successful, these efforts could create a "win win" solution by simultaneously championing the goals of neo-liberal markets; amelioration of deteriorating environmental functions of the world's forests; and the promotion of poverty alleviation, indigenous rights, and community participation.

This may explain why the World Bank has been so instrumental in supporting FSC-style certification, as it represents an opportunity to support their ongoing efforts to promote socially and environmentally responsible practices in ways that are consistent with their broader neo-liberal goals.

For all these reasons, the FSC came to develop ten (abstract) principles governing responsible forest management *goals*, with concrete criteria detailing policy *objectives*. The "principles and criteria" of the FSC were developed to be both prescriptive and wide-ranging, addressing a host of natural resource management challenges, including biodiversity, local water pollution, and wildlife protection, as well as community rights and worker protection (Meidinger 2003). Specific policy prescriptions were to be developed through national or sub-national multi-stakeholder bodies that were charged with incorporating ecological and social knowledge into those prescriptions. Third-party auditors were then accredited to conducting "on-the-ground" audits of firms for compliance and, if successful, firms were then awarded with an eco-label with which to promote their corporate image, as well as to meet demand along the supply chain for "certified products" (Table 23.4).

While many firms and forest sectors initially balked at the idea of outside scrutiny of their forest practices, by the mid-2000s, two discernible trends had emerged. First, most industrialised countries in North America and Europe came to embrace third-party certification, though many supported "FSC competitors" that emerged in the 1990s as an alternative choice to the FSC. These alternative programs were generally much more flexible than FSC standards, leaving specific decisions about what to do to meet objectives up to the firm, rather than the certification program (Table 23.5). In addition, because these were initiated by forest owner and/or forest industry associations, their governance structures

462

tended to downplay the role of environmental groups either by giving a greater role to producer interests, to non-environmental stakeholders, or to conservation groups that are closer to the center of the political spectrum. Partly as a result, these FSC alternatives were more limited in scope than the FSC, which pleased some forest owners, who felt that while well-intentioned, the FSC requirements were simply too cumbersome and/or too expensive in excess of what current markets could support. By the 2000s, most of these "FSC alternatives" have come to be housed under the Program for the Endorsement of Forest Certification (PEFC) (Vallejo and Hauselmann 2001, Humphreys 2006a).[1]

Many PEFC-endorsed systems, such as the Sustainable Forestry Initiative (SFI) in North America, focus more on a systems- or process-based approach to forest management, while the FSC approach addresses management prescriptions, processes, and performance. For these reasons, FSC standards are, in general, much more "prescriptive" than those developed by PEFC programs.[2]

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[1] The FSC Principles and Criteria include: (1) Compliance with laws, international agreements, and FSC principles; (2) Tenure and use rights and responsibilities; (3) Indigenous people's rights; (4) Community relations and worker's rights; (5) Multiple benefits from the forest; (6) Environmental impact and biodiversity conservation; (7) Management plans; (8) Monitoring and assessment; (9) Maintenance of high conservation value forests; and (10) Plantations.

[2] The PEFC Objectives include: (1) Ensure long-term harvest levels based on the use of the best scientific information available; (2) Ensure long-term forest productivity and conservation of forest resources through prompt reforestation, soil conservation, afforestation; (3) Protect water quality in streams, lakes, and other water bodies; (4) Manage quality and distribution of wildlife habitats and contribute to the conservation of biological diversity; (5) Manage visual impact of harvesting and other forest operations; (6) Manage Program Participant lands that are ecologically, geologically, historically, or culturally important in a manner that recognises their special qualities; (7) Promote the efficient use of forest resources (8) Broaden the practice of sustainable forestry through procurement systems; (9) Improve forestry research, science, and technology; (10) Improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors through training; (11) Comply with federal, provincial, state, or other local laws and regulations; (12) Broaden the practice of sustainable forestry by the public and forestry community and publicly report progress; (13) Promote continual improvement in the practice of sustainable forestry and monitor, measure, and report performance.

While many use these differences to highlight ongoing power struggles among environmental, social, and business interests, the public competition for legitimacy between the FSC and domestic "FSC competitors" has meant that although significant and sustained differences exist along the lines of these core conceptions, strategic changes have been made such that no single conception perfectly dominates any one program (Cashore et al. 2004a, 2007; Overdevest 2010). What is crucial for our study is to reflect on how these private certification institutions reflect and mediate efforts to promote different concepts of resource management.

For these reasons, scholars and practitioners have begun to focus on the evolution of support for these systems, which must overcome a "chicken or egg" conundrum inherent to market-based systems (Table 23.6) in which the requirements cannot be so high as to put supporters at a competitive disadvantage, while they can't be so low that they fail to make a difference. Recognition of this conundrum requires that scholars and practitioners be sensitive to understanding the causal pathways in which support for such institutions might evolve "progressively incrementally" over time. This means paying attention to the way in which firms supporting certification in relatively regulated markets might create incentives for firms in less regulated markets to be enticed, through economic incentives, to support certification and hence "ratchet up" their performance. Such a dynamic requires that certification systems *recognize*, rather than *increase*, existing public policy regulatory requirements. In this case, support from these firms at "Time 1" would be used to send a signal to firms elsewhere that access to these lucrative markets requires that they bring their standards up to those of the participating firms (rather than increasing standards on those already the most regulated).

Results to Date

As of 2009, about 9% (3 443 million ha) of the world's 3.9 billion ha of forests were certified (Table 23.6). Of this, the PEFC had enrolled about 65% (223 million ha) in forest management certification through participating programs, including 57 million ha in Europe and 145 million ha in the Americas. In 2009, the FSC had certified about 116 million ha of forests around the world (34% of total certified forest area). The difference in area certified under these systems is attributed in part to their differences in application; the FSC system certifies individual forests and the PEFC endorses forests certified under existing certification schemes. These tables reflect a snapshot of what is a highly dynamic and evolving process. For instance, by the end of December 2005, the PEFC had certified over 186 million ha of forests

463

Table 23.5 Conceptions of Forest Certification.

	Conception One	Conception Two
National Sovereignty	Belief that domestic states should be constrained through development of global requirements/standards	Respects rights of countries to determine forest policies appropriate for operations within their own borders
Who participates in rule making	Environmental and social interests participate with business interests	Business-led
Rules – substantive	Non-discretionary	Discretionary-flexible
Rules – procedural	To facilitate implementation implementation of substantive rules	End in itself (belief that procedural rules by themselves will result in decreased environmental impact)
Policy Scope	Broad (includes rules on labor and indigenous rights rights and wide ranging environmental impacts)	Narrower (forestry management rules and continual improvement)

Source: Cashore 2002.

Table 23.6 Major Forest Certification Systems in the World, October 2009.

System	Area (million ha)
Program for Endorsement of Forest Certification (PEFC)[1]	223[1]
Sustainable Forestry Initiative (SFI)	71
Canadian Standards Association (CSA)	74
American Tree Farm System (ATFS)	10
Sistema Chileno de Certificación Forestal (CERTFOR)	2
Sistema Brasileiro de Certificação Florestal (CERFLOR)	1
Australian Forestry Standard (AFS)	8
Forest Stewardship Council (FSC)	116
Malaysian Timber Certification Council	5
TOTAL (PEFC, FSC, ATFS[2], MTCC[3])	344

[1] Includes SFI, CSA, CERTFOR, CERFLOR, ATFS and 57 million ha in Europe as of October 2009.
    Sources: www.fsc.org and www.pefc.org.
[2] American Tree Farm System.
[3] Malaysian Timber Certification Council.

in 19 countries (an increase of more than 120 million ha in 2005), while the FSC had certified over 68 million ha in 66 countries (an increase of about 15 million ha in 2005) (Humphreys 2006a). However, between 2006 and 2008, the area of certified forests under the FSC had increased by 35 million ha, while the area of certified forests under PEFC increased by about 16 million ha. (During this period, the PEFC had not endorsed any new certification schemes.)

While Table 23.6 presents a global snapshot, Figure 23.3 presents a conundrum: much of the support for FSC and PEFC certification has come from North America and Europe, in which policy enforcement is relatively strong (Esty and Porter 2002) and in which, at least on public lands, public policy prescriptions are high. Yet widespread support in developing countries in general, and the tropics in particular, continues to elude strategies. After more than a decade, less than 5% of the global area of certified forests is found in the tropics. This is troubling, since for many, certification was championed as a non-state alternative for decreasing the destruction and degradation of tropical forests in place of ineffective government interventions, boycotts on tropical timber, and unsuccessful attempts to develop a globally accepted binding agreement on sustainable forestry (Atyi and Simula 2002).

Hence, understanding how this current level of support might eventually translate into broader support in the global South is one of the key questions
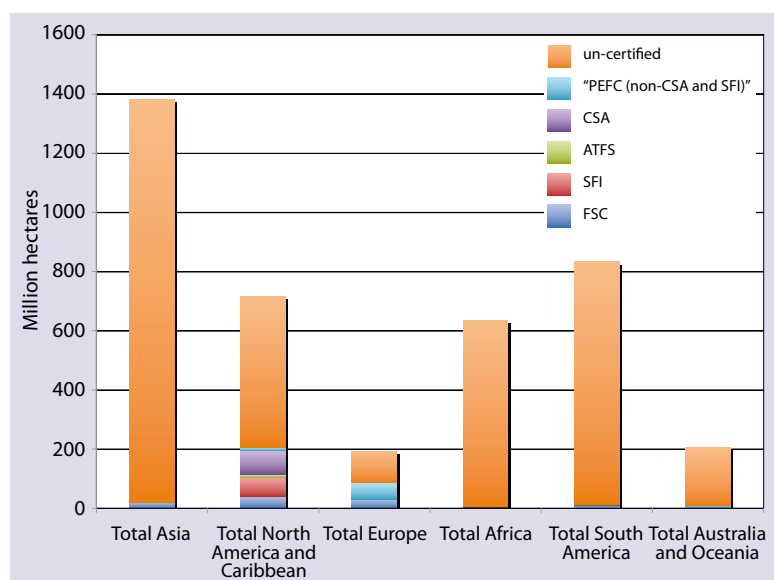
Figure 23.3 Certification by region.
Sources: ATFS 2004, FAO 2005a, PEFC 2009, FSC 2010, SFI 2010.

by which to understand whether and when private institutions might be able to adapt and respond to new challenges in ways that either bypass or intersect with intergovernmental and domestic efforts. As we discuss in the Conclusions, these recognitions have placed simultaneous attention on understanding whether and when more modest efforts certifying legality might be used as a way to nurture certification in the long run (Cashore et al. 2007).

Obstacles

Obstacles to widespread certification of tropical forests include limited market demand for certified forest products; the costs of improving conventional or traditional tropical forest management; conflict or incompatibility of certification standards with local, legal forest frameworks; poor incorporation of local land-use contexts in certification standards and processes; and additional barriers for small landowners and forest communities without clear title or tenure (Atyi and Simula 2002, Meidinger et al. 2003, Mayers and Bass 2004). Additionally, Richards (2004) argues that increased forest certification in the tropics must be preceded by reductions in illegal logging (rather than certification serving to decrease illegal logging). As he notes, illegal logging depresses timber prices, thus increasing the financial burden of certification and effectively reducing its economic persuasiveness.

Several efforts have examined the impacts and costs of forest certification, and generally indicate that certification has changed management practices, albeit not without costs. Auld et al. (2008) found that

area of land certified and the number of chain-of-custody certificates have increased dramatically in the last 15 years. They concluded that while audits have ensured that certified forests have resulted in changes in practices, patterns of adoption initially seemed somewhat more focused on internal monitoring and system changes rather than on forest management, or on environmental and social changes, raising questions about broad-based effectiveness. Furthermore, they found no broad scale correlations between support for certification and reduction of deforestation or increased forest conservation at the landscape level.

Rickenbach and Overdevest (2006) assessed certification expectations and satisfaction with FSC certification in the US. They found that certification participants had the greatest expectations for market benefits, such as higher prices or increased market share, but their satisfaction did not meet expectations, particularly in terms of increased prices for certified products. "Signalling" benefits of increased recognition for one's forest practices and public relations did not garner as high expectations, but ranked highest in terms of participants' satisfaction with certification. In many cases, satisfaction with signalling benefits exceeded expectations. "Learning" about new forest management practices – finding better forest management, environmental, social, and economic practices through certification – ranked third in terms of expectations.

Cubbage et al. (2009) surveyed opinions about the benefits of forest certification, classifying responses into corporate strategy, markets, signalling, or learning categories in the Americas, including systems in the United States, Canada, Brazil, Argentina, and

465

Chile. Respondents generally classified the benefits of firm strategic or management reasons highest, organisational learning factors second, signalling stewardship to external groups third, and improved prices or markets last, but all broad groups were considered important benefits of certification. The largest perceived disadvantages of forest certification were its time and audit costs, and no other disadvantage was rated more than "somewhat important." Certified forest firms had relatively evenly mixed opinions about whether certification benefits exceeded costs, but a large majority stated that they would continue forest certification in the future.

Cubbage et al. (2009) also examined the costs of forest certification in the Americas. Average total costs varied considerably, depending on forest ownership size, certification system, and country. Median average total costs ranged from USD 6.45 to USD 39.31 per ha per year for small tracts of less than 4 000 ha. The large ownerships of 400 000 ha or more had median costs of USD 0.07 to USD 0.49 per ha per year. Average total costs for certification were a function of ownership size, but did not vary significantly among certification systems or country.

In a work in progress, the same authors examined the number of changes in forest practices in North and South America with certified organisations. All firms made numerous changes as part of their forest certification – both those officially required to become certified and additional changes, as well. On average, firms made 27 different management, environmental, social, legal, economic, and system changes when certified by FSC and PEFC in Argentina and Chile; and 15 changes when certified by private and public organisations in the US and Canada for SFI (PEFC), and the US for FSC. All firms made changes across all components of forest certification, but there were generally more environmental changes made by FSC organisations and more economic and environmental management system changes by PEFC organisations.

These and other external examinations of the impacts of forest certification suggest that this innovative policy approach has not currently resulted in an effective non-state mechanism for enhancing the sustainability of tropical forest management, although significant progress has been made for temperate forests. Without increased demand for certified forest products and enhancements in local forest governance, particularly in the tropics, the certified proportion of the world's forests is not likely to significantly increase anytime soon. This means that attention must be placed on nurturing such support, which we address in the Conclusions, or in assessing how certification institutions might encourage norm generation and learning that would shape and influence potentially authoritative governmental institutions (Auld et al. 2010). This may indeed be

the most important role of the more abstract and flexible myriad "corporate social responsibility" efforts that have emerged to promote responsible forest management.

23.5.2 Corporate Social Responsibility

Corporate Accountability and Corporate Social Responsibility (CSR) are forms of voluntary self-regulation in which industry or professional associations establish codes of conduct and practice outside of governmental processes (Gunningham et al. 1998). Renewed interest in the "new CSR" in the last 10 years is distinguished from the "old CSR." Whereas the latter focused on corporate philanthropic activities that usually had little to do with the firm's core business practices (such as creation of the Carnegie libraries and the Ford Foundation's philanthropic efforts), the former is squarely focused on internalising a firm's negative externalities (Vogel 2005). Instead of explicitly or implicitly diverting attention from an environmental or social concern arising from a firm's core business activity, the new CSR occurs when the firm's officials address such issues directly (Vogel 2005, Auld et al. 2008).

CSR has drawn increasing attention in recent years, particularly as escalating globalisation connects globally operating corporations with local communities worldwide. Legal requirements for business or industry in one country may differ significantly from those in another, leading some corporations to move their operations to places with less stringent environmental and social regulations. Yet, in an increasingly connected and globalised world, corporations are subjected to a broader range of public scrutiny and expectations that increasingly encompass calls for environmental and social justice. These align themselves well with global concepts of sustainable development, and have thus formed the basis of most CSR schemes and reporting.

Associating CSR with sustainable development has become so common that CSR reporting is typically referred to as "sustainability reporting." PriceWaterhouseCoopers (2007) reports that 61 of the 100 largest forest products companies in the world have produced some form of sustainability reports. As a broader example, a Corporate Social Responsibility program and website had almost 1700 member firms that employ the site for demonstrating their CSR efforts, policy statements, reports, and even videos and blogs (CSRwire 2009). Yet, Panwar and Hensen (2008) indicate that CSR reports do not necessarily guarantee that companies are making commitments beyond the status quo in terms of society and the environment, as many of the social and environmental indicators reported are often already largely part of

local legislative requirements.

In terms of the forest products sector, self-regulation may be implemented by producers, such as Canadian forest products giant Domtar (Auld 2006), Finnish-based Stora Enso (Stora Enso 2010), and a range of other forestry firms across North America and Europe (Cashore et al. 2007). Some of these incentives come from targeted NGO "market campaigns" (Sasser et al. 2006), but also from retailers such as Home Depot and IKEA, which have developed policies to promote and sell FSC-certified forest products (Anderson 2004, Cashore et al. 2004b). The Home Depot is the world's largest home improvement retailer and was the first such retailer in the USA to develop a preferential purchase program for certified wood products. Today, Home Depot is the largest purchaser of certified wood products in the USA and supports further development of the certified wood products supply chain through membership in the Global Forest and Trade Network (Home Depot 2009). IKEA is one of the world's largest home furnishings retailers. The company is a member of the Forest Stewardship Council (Cashore et al. 2004a), and has established long-term goals of sourcing 100% of the wood in its products from certified sustainable sources (IKEA 2010). IKEA is strongly motivated to support certification as a means to achieving its CSR goals and, as a result, generally does not label its own products with a certified forest products label, preferring instead to create awareness for IKEA's overall responsibility efforts, of which support for FSC is one component (Cashore et al. 2004a).

Major corporations with worldwide reach are increasingly embracing CSR and similar initiatives (Lockett et al. 2006, Auld et al. 2008, Matten and Moon 2008, Utting 2008, Crane et al. 2009). As Hodak (2008) notes, these initiatives not only increase societal and environmental benefits, but also pay off in terms of public relations, human resources, and even cost savings. Vogel (2008b) suggests that private global business regulation has expanded through economic globalisation, the lack of adequate state mechanisms at both national and international levels to govern global firms and markets, and the increasingly prominent role of NGOs in global politics. He adds that corporations have acquiesced to self-regulation to avoid activist campaigns, promoting internal CSR acceptance as being consistent with their business objectives and their expanded view of responsible business norms and values.

On the other hand, Vogel (2008a) warns that while a "market for virtue" does exist, it is very limited. Part of the reason why CSR does not necessarily pay is that only a handful of consumers know or care about the environmental or social records of more than a handful of firms. Like certified wood products, products tied to CSR represent a limited niche market,

while most goods and services are purchased on the basis of price, convenience, and quality. "The market has many virtues, but reconciling corporate goals and public purposes is, unfortunately, not among them. Managers *should* (author's emphasis) try to act more responsibly, but they should not expect the market to necessarily reward them – or punish their less responsible competitors" (Vogel 2008a).

What is important from this review is that CSR efforts appear to have been very strong in raising on the public and private policy agendas the importance of firms to take responsibility for environmental and social goals. Whether and how they actually result in creating and supporting effective institutions may require assessing how these efforts intersect with more authoritative institutions. Attention to this may require reflecting on how coalitions of firms and NGOs might create new networks or help foster institutional intersection, which we argue in the Conclusions, is paramount to building the next generation of forest governance institutions. As the next section reveals, there appears much merit in such an approach.

23.5.3 NGO and Firm Partnerships

While individual firms or companies may adopt CSR and Corporate Accountability schemes aimed at improving business practices from forest management to forest products consumption, even large-scale, individual companies such as Home Depot or IKEA have not had sufficient power to effectively identify and influence the sustainable demand and supply from the global forest products sector. Consequently, individual firms have joined together to form partnerships among themselves, as well as with producers and, in some cases, NGOs, aimed at increasing the transparency of the supply chain and the demand for sustainably produced, verified, and certified forest products (Caviglia-Harris et al. 2003).

For instance, the Global Forest Trade Network (GFTN) is a partnership of forest products consumers, producers, and NGOs that promotes international trade in certified forest products as a means of achieving improved forest management practices around the world. Initiated by the World Wildlife Fund, the GFTN seeks to raise private-sector awareness of the impacts of poor forestry practices, and to influence policies that govern forest product procurement in all sectors. Network participants engage in some degree of self-regulation (of industry, which commits to produce and trade only verified or certified forest products), while benefiting from market influences aimed at increasing the demand and supply of sustainably produced products (Humphreys 2006a, Tacconi 2007). As of April 2009, the GFTN included 339 participants from 30 countries, which

467

annually trade over 260 million m³ of wood products in roundwood equivalents from more than 39 million ha of forest, 21 million ha of which were FSC certified (WWF 2009).

Another demand-side partnership is the United Kingdom (UK) Timber Trade Federation (TTF) (Tropical Forest Foundation 2009), whose participants represent about 85% (by volume) of the total timber brought into the UK (Brack and Saunders 2006). The TTF Code of Conduct requires its members commit to removing illegal timber from their supply chains. The TTF also incorporates a Responsible Purchasing Policy (RPP) that helps its members deliver on their commitments through a supplier risk-assessment tool. Adherence to the purchasing policy is voluntary (Tropical Forest Foundation 2009). Members that were the subject of negative NGO campaigns or that have faced public scrutiny have been quicker to adopt the RPP, while smaller and less risk-sensitive companies have been reluctant to commit to the policy without the assurance of price premiums or markets for verified products (Brack and Saunders 2006). These examples point to the need to better understand the precise mechanisms though which such support emerges so that it may progress incrementally to promote problem-focused evolution of authoritative institutions.

23.6 Capacity-Enhancing Institutions

The above review has identified a number of key challenges and opportunities regarding institutional development and impacts at the international, regional, and domestic levels. The review has made it clear that any analysis of institutions and their policies must simultaneously be attentive to understanding whether, when, and how the resources, knowledge, and expertise to adapt over time are available to rural communities, whose behaviours constitute the focus of these governance institutions. Such questions require that we expand beyond a focus on "governance" institutions to review those institutions that nurture knowledge creation, contribute expertise, and channel diverse resources and incentives to stakeholders involved in forest conservation and management. In this regard, a number of institutions stand out as key for developing such capacities: the role of educational, training, research, and extension institutions whose interactions with stakeholders, communities, and practitioners may contribute to an interactive learning environment critical for translating and adapting policy interventions toward meaningful results; and the additional role of government bureaucracies, *qua* institutions, to foster efforts that are efficient, effective, and supported by the communities whose environmental, social, and economic challenges they seek to address. We argue that nurturing these efforts helps to reinforce, and respond to, the concerns of local communities by simultaneously building a "logic of appropriateness" in which their interests, concerns, and views are incorporated rather than steered, while enhancing a "logic of consequences" by improving actual delivery and impacts in ways that are efficient, equitable, and adaptable.

23.6.1 Institutions Involved in Capacity-Building and Training

Much of the early efforts to promote the forest sector were largely focused on industrial forests. In these cases, governments or development agencies often developed "top-down" efforts in which rural communities were seen as beneficiaries of their programs and largesse. As policy goals and objectives evolved and diversified, scholars and practitioners began to realise that more "bottom-up" approaches were key for developing institutions that might be more enduring and adaptive. Partly in response, non-governmental organisations began to engage with forest-based communities to encourage and create capacity for participatory approaches to SFM. Such local participation has not just been nurtured through community organisations, but also through economic development efforts that have nurtured small and medium forest enterprises whose employees and owners are from the local forests being governed (including community-based enterprises and concessionaires) (Kenny-Jordan 1999, Donovan et al. 2006, Sabogal et al. 2008). This diversification has been accompanied by varying degrees of empowerment of community-based organisations and has led to a greater understanding of the scope and diversity of knowledge and skills required for SFM, including the following:

◆ social and organisational aspects ranging from strategic and operational planning to the know-how required for carrying out effective negotiations, conflict management, and gender issues (Galloway 2007);

◆ ecological and technical aspects, including research and monitoring capabilities;

◆ business development and administration aspects crucial for the development and consolidation of small and medium forest enterprises, including community-based enterprises (Donovan et al. 2008);

◆ political-legal aspects and governance to better inform community groups and other stakeholders about elements of the political and legal frame-

work that directly affect the viability of SFM initiatives; and

◆ networking, communication, and information exchange (Kleine et al. 2005).

Since the experience of local actors and the institutional framework varies greatly from one setting to another, capacity-building needs also evolve and change. This reality is one of the underlying challenges of institutions involved in capacity building and technical assistance (Galloway 2007). Although forestry projects have tended to stress the technical dimensions of management, local actors will generally indicate other training priorities if consulted. For example, representatives of indigenous communities in Nicaragua indicated their desire to understand forestry laws and legislation that affected their opportunities to participate in forest management. Also considered a priority was a course explaining – in understandable terms – the objectives and content of forest management plans, since they perceived forest management as a potentially effective way to curb encroachment on traditionally indigenous lands. In the Mosquitia of Honduras, community members expressed interest in learning about alternative types of communal organisations in the country, and attributes that favoured or undermined their effectiveness from an economic perspective (Galloway 2007). These examples serve to illustrate the breadth of capacity-building needs.

Beyond the breadth of topics that must be addressed in capacity-building efforts, it is also important to recognise that these efforts must target different levels. A wide array of persons influences what happens in forests and protected areas. For that reason, capacity-building must target each of the following groups at different junctures of time:

◆ Representatives of community groups and others directly linked to forests (rural communities, indigenous groups, concessionaires, persons contracted by private companies, and forest workers). Efforts must be made to utilise appropriate language and accessible terminology in activities targeting these groups.
◆ participants in production and value chains
◆ field technicians and workers
◆ project staff of NGOs and other organisations
◆ representatives from universities and technical schools
◆ decision-makers

Capacity-building activities are costly and time-consuming. Although the formulation of a good capacity-building strategy in a given region can help to ensure that efforts undertaken are efficient, effective, and relevant, they are often lacking (Galloway and Zamora 2000).

23.6.2 Institutions Involved in Research and Higher Education

Institutions involved in research and higher education must prepare professionals and technicians with a skill set quite different from what was taught in forestry education a generation ago, just as current needs will be different a generation from now. Although the need for change in forestry education has been recognised for quite some time, recent comprehensive studies in Africa and Latin America have concluded that many forestry schools can be relatively slow to adapt to the new paradigms in forestry (Encinas and Mañon 2007, Temu et al. 2007). Another study focusing on Southeast Asia found that even when curriculum development was the highest priority, changes were made on an *ad hoc*, rather than a systematic basis (FAO et al. 2005). These reviews have highlighted that across the globe and despite considerable efforts by academic institutions, many curricula are outdated and fail to address current needs of the sector, such as integrated natural resources management, forest governance, forest biodiversity, forests and climate change, forests and livelihoods, and forest enterprise development, among others (IPFE 2008).

Part of the explanation for this gap is that there is now growing recognition that forestry is a multidisciplinary pursuit that must interact with other sectors and a growing array of stakeholders. Forest practitioners must be prepared to *understand* the role of forests in a diverse landscape and to *facilitate* processes involving multiple stakeholders. The former requires greater scientific understanding of ecological processes, while the latter requires that knowledge of human systems be coupled with communication skills. As Sayer and Elliot (2005) explain, "all this adds up to make forestry an even more challenging and exciting profession in the coming century."

Yet at least three factors are working to push away from such integration. First, in the last ten years, there has been a noticeable decline in enrolments in forestry faculties (FAO et al. 2005, IPFE 2008, Temu and Kiwia 2008), which appears to reflect broader societal concerns about what it means to practice forestry management, as well as uncertain employment opportunities. Second, declines in enrolment have placed educational institutions in the unenviable position of having to retool but without the resources required to make this costly transition. Third, although the drivers of change discussed in this book have led to some opportunities for forestry professionals to be involved in global deliberations, they have not translated to corresponding employment opportunities in many countries. Consequently, although a perceived need for change exists, the impetus and resources to undergo this change are often

469

lacking (FAO et al. 2005, Encinas and Mañon 2007, Temu et al. 2007).

Beyond efforts to update and improve the quality of curricula, other approaches are being utilised to enhance the quality of forestry education: continuing education opportunities for professors and practitioners, exchanges and cooperation among universities, greater emphasis on ethics and values, and the development of shared programs. Advances in information technology and communication should help foster linkages among research and educational institutions in coming years to better meet the challenges indicated.

Most accept that the key ingredient is to play a leadership role in fostering the generation of relevant research so that such results can be disseminated through education and teaching. Yet surprisingly, many research institutions do not appear to be making these connections a formal priority. For instance, more than half of forestry schools in Latin America reported that they did not systematically link research to education (Encinas and Mañon 2007), while similar blockages have been found in Africa (Temu et al. 2007).

Consequently, in a moment when the complexity of forestry is increasing and the need for information to drive decisions is greater than ever, research capacity in many parts of the world has stagnated or diminished, especially in developing countries (Spilsbury and Kaimowitz 2002). This has resulted in key questions receiving scant attention, such as research on the composition and development of forests, genetic diversity and regeneration, as well as a wide array of topics in relation to socioeconomic, governance, and policy aspects of SFM. We also know that ongoing research is urgently needed to better understand the impacts of climate change on forests and forest-dependent communities. With regard to this issue, inadequate baseline data for drawing conclusions about changes in forest cover and quality over time render it virtually impossible to identify and measure national carbon credits. Yet, according to a recent IPCC (Intergovernmental Panel on Climate Change) (2007) study, only three of 99 tropical developing countries possess the necessary capacity for carrying out monitoring of forest changes.

Clearly, the ability to promote socially sensitive and environmentally responsible forest management, including forest conservation, requires systematic generation, analysis, synthesis, and use of quality information about what is actually occurring in forest landscapes. This is important because in the absence of quality data about what is occurring, or what challenges are or will be faced, ill-conceived policies can be developed that are unrelated to actual on-the-ground challenges (Spilsbury and Kaimowitz 2002). Such information can be generated from a variety of data points, including well-planned monitoring

programs, national inventories and permanent plots, and research programs led by scientific and academic institutions.

As concern over the loss of ecosystem structure and function grows, more attention is being given to the capacity of landscapes to yield these goods and services under diverse, collective management strategies. Interest in territorial or ecosystem approaches for conserving water, biodiversity, and other ecosystem goods and services are being pursued in many regions of the world. The complexity of these efforts underscores the need for well-directed research efforts to determine how different governance arrangements and policy instruments affect challenges over time (Sayer 2009).

Consistent with our concept of a "logic of appropriateness," it is clear from this review that in addition to the importance of linking research to teaching, it is equally critical that research and teaching integrate and include the active participation of a diverse set of forest community stakeholders – especially in those regions where active forest management and/or deforestation and development are occurring. Such an approach provides an opportunity to learn how research, teaching, and extension can coalesce to encourage "adaptive management" for improving observable consequences.

One effective approach linking growing research needs with the importance of improving the formative process of forestry professionals is to encourage the realisation of thesis research within public and private sector initiatives. This approach has worked well in many Central American countries (Rojas and Galloway 1999). Research efforts should cover a broad range of topics, including technical, biophysical, and ecological aspects, as well as those of a social, human, and economic nature (Rebugio and Camacho 2003). This increased contribution of educational institutions to forestry initiatives serves to strengthen the relevance of educational programs and better position them to address new challenges.

23.6.3 Forest Administrative Institutions (Bureaucracies/Government Agencies)

Any efforts to understand the ability of institutions to address new challenges must not only explore governance institutions that create policies reviewed in sections 23.3 and 23.4 above, but must also examine the ability of forest administrative institutions to promote and foster the translation of government policies to changes in behaviours and practices This is an important distinction. Whereas the above section was focused on understanding how policy-generating institutions may be seen as appropriate,

470

inclusive, and transparent, a focus on administrative institutions, including forestry agencies and other relevant government units, redirects us to assess the organisational capacity of government agencies to carry out and foster the implementation of their efforts (see for example Kaufman 1967). To be sure, the distinction between what governance institutions do, and the functions of administrative bureaucratic agencies, can overlap, especially since the latter are often commanded by legislatures or executives to develop policy calibrations and specifications that follow their goals and objectives. In fact, it is for these reasons that our review points us to two related phenomena: 1) the expanded role of forest administrative agencies from the practice of important, but narrow, resource management, to interacting with a range of societal stakeholders and interests across a diversity of local settings; and 2) reflecting the above theme, whether, when, and how administrative agencies either have, or might earn, the organisational capacity, including resources and expertise, to promote and realise goals and objectives articulated by local governance institutions.

Over a decade ago, Bass et al. (1998) drew upon a growing body of scholarly literature to illustrate that many public sector administrative forestry institutions were pressured to accept and adopt sustainable forest management responsibilities that went beyond timber yields, incorporating concepts of multiple use (Culhane 1981), local participation, ecosystem concerns (Shannon and Johnson 1994, Hoberg 1997) and poverty alleviation. As a result, public sector forestry administrative institutions interacted with a broad range of stakeholders (Howlett 2002) at international, national, and local levels (Bass 1998, Wellstead et al. 2004). As a result, the role of forest administrative institutions in nurturing the necessary skills, knowledge, and training with which to promote the increasing myriad challenges within and across these networks has never been more important, yet also more challenging.

While the mandate of public sector forestry institutions has become more complex, many of these institutions have had to face growing financial limitations, a process of downsizing, and a loss of presence in the field (Pacheco and Kaimowitz 1998). Parallel to this process of institutional erosion, governments have often been successful in progressing in policy formulation, but are unable to bridge the gap between policy formulation and widespread policy application. A common refrain in Latin American countries is that "a good legal framework exists, but it is not implemented in the field" (Galloway and Stoian 2007).

As a result of these countervailing pressures to do more with less, the FAO Committee on Forestry (COFO) (2009) has found that administrative forestry institutions have adapted in four ways. First, they

have worked to separate the role of policy development discussed above and under the domain of governance institutions, to their "resource management functions" that result. This has been accomplished both to create more efficient divisions of labour, but also to avoid potential conflicts of interest.

Second, there has been less emphasis on control and more emphasis on facilitating efforts by others (Howlett 2000). In this sense, administrative agencies have implicitly redoubled efforts to focus on improving "logics of appropriateness" without which virtually all policy interventions will be limited.

Third, their "capacity" challenges have led them to promote, consistent with governance institutions above, "decentralisation" of resource management responsibilities. This has included, for instance, devolution of functions traditionally carried out by national institutions to municipal governments, and even rural communities. However, as we know from the above review, if such decentralisation efforts simply replace inadequate resources at the national level for administrative agencies with inadequate resources at the local or municipal level, it is virtually certain that few improvements will ensue. In fact, the resulting fragmentation may lead to less authority for governance institutions generally, and contribute to problems, such as illegal logging, rather than solve them. Likewise, it is clear that even when resources exist, the devolution of administrative functions to local communities must be accompanied with adequate capacity-building supports (Ferrouckhi 2003).

Fourth, there is increasing effort on cash-strapped administrative forest institutions in developing countries to partner with international aid agencies to promote *public goods*, such as environmental services. In many countries, declining governmental budget allocations have led to increased dependency on international development assistance, which currently is also in decline (COFO 2009).

Overall, there is no question that public administrative forest institutions are under significant stress, especially in developing countries, to promote more appropriate processes and achieve improved forest practices albeit with fewer resources. Although the situation will vary between different countries, it still is not clear whether public sector institutions will be capable of responding to a desired degree to the new challenges, at least in the short term, without a significant improvement in financial support, technical training, and social awareness.

An important role of governmental institutions is to contribute to the creation of an enabling environment that facilitates responsible forest management and conservation, and that favours the development and consolidation of small and medium forest enterprises. Existing regulatory frameworks in many countries often discourage responsible stewardship of forests by converting forest management and the

471

commercialisation of forest products into unattractive alternatives. Governments can foster the creation of an enabling environment by granting and enforcing legal access to forest resources, curbing illegal logging to reduce unfair competition, simplifying bureaucratic procedures for small and medium forest enterprises, or providing financial incentives for start-ups, among other options (Donovan et al. 2007). Complying with the planning and documentation requirements in many countries is often costly, inefficient, and extremely difficult for forest owners and communities lacking adequate professional support (Pacheco and Kaimowitz 1998). For example, legal harvesting of timber in Honduras requires more than 40 steps involving approximately 20 officials and foresters (Chavarria 2010) and eight months of effort. When these types of constraints are coupled with limitations on the sale of forest products, illegality, and unfavourable taxation policies, community-based forestry operations seeking legitimacy often revert to illegality once again. As was pointed out in the section on certification, corruption and/or the lack of law enforcement makes illegality compelling from an economic perspective and explains its predominance in many countries.

Institutional Prerequisites and Intersection

It is evident from our review that there exist wide ranging types and examples of institutions at international, domestic, and local levels that are all relevant for understanding whether, when, and how institutions might be able to adapt to evolving drivers of change. Given this complexity, what types of conclusions can be drawn that shape the next generation of research on the one hand, as well as provide practical policy advice on the other hand? We answer this question in two ways. First, we focus our attention to "prerequisite conditions" and potentially synergistic institutional "intersections" that either have, or might show, potential in promoting the ability of institutions to respond to new challenges. Second, we divide our analytical efforts between "lessons from the practice of resource management" on the one hand, to the nurturing of durable "governance institutions" on the other.

23.6.4 Lessons from the Practice of Resource Management

The above review has made it quite clear that most forest-focused governance institutions have had some relevance for the practice of forest resources management. This might be owing to the promotion of neo-liberal norms that permeate and affect instru-

ment choices, or to the generation of new types of knowledge about forest biodiversity or social processes crucial to SFM. Similarly, we know that administrative capacity to oversee policy decisions on the ground, and the ability of knowledge networks to create requisite training and expertise, are critical factors for understanding how institutions might promote *behavioural* adaptation.

What, then, are the lessons that we can draw from the above review and from scholars and practitioners who focus on the practice of resource management? To answer this question we first review key "prerequisite conditions" for successful natural resource management that emerge from the above, from the professional experiences of one of the co-authors, and from key literature on sustainable forest management and conservation (Ostrom 1990, Durst et al. 2005, Donovan et al. 2006, Pagdee et al. 2006). To be sure, the complexity and multi-dimensionality of sustainable forest management and conservation, and particularly community-based forest management, means that the precise mix of conditions and aspects that foster successful adaptation will be different across the ecological, social, cultural, and economic contexts of the forest and local communities (Pagdee et al. 2006). Our point in this review is not to offer definitive answers or non-controversial findings, but to identify what appear to be important conditions that should be subjected to careful consideration when seeking to advance SFM in diverse settings. Here, these "prerequisite conditions" are grouped around the policy and institutional functions highlighted in this chapter.

Prerequisite conditions related to governmental policies and institutions and their functions:
◆ Well-defined land tenure or long-term use rights (legal access to resource base);
◆ Favourable regulatory framework (creation of an enabling environment) and effective control of illicit activities, including illegal logging and encroachment;
◆ Adequate reconciliation of different land uses and policies that affect forests;
◆ Provision of basic services, including educational opportunities, health services, water, and adequate local infrastructure;
◆ Long-term societal commitment reflected in public investment and continuity of support to SFM initiatives over time.

Prerequisite conditions related to capacity building:
◆ Adequate organisational capabilities of community groups reflected in their ability to participate meaningfully in SFM initiatives;
◆ Local leadership (build on and enhance over time);

◆ Capacity to plan and carry out a wide range of activities, including those of a technical nature, and others related to business organisation and administration, among others. The existence of these capacities reflects the opportunity to participate in and benefit from technical assistance and training, leading to the formation of human and social capital.

Prerequisite conditions related to poverty reduction, rural livelihoods, and small and medium forest enterprise development:
◆ Forest management and conservation contributions to local livelihoods, successfully generating income for participants;
◆ Facilitation of commercial opportunities and market access. The beneficial integration of small and medium forest enterprises (SMFEs) into supply and value chains has been increasingly recognised as important.
◆ Adequate access to capital (credit or from other sources, such as incentives) and technology (forest enterprise development and the provision of credit require business development and financial service providers).

Prerequisite conditions related to research and monitoring:
◆ Adequate knowledge to orient capacity-building efforts in diverse dimensions of SFM;
◆ Continuous monitoring to learn from and improve the effectiveness of SFM in all its dimensions over time.

Considering the breadth and diverse nature of these "prerequisite conditions," it becomes clear that progress requires the involvement or intersection of a considerable number of policies and institutions. Indeed, our review shows a consensus within the literature that the prospects for progress towards success in SFM will depend, in large part, on whether the appropriate collective technical, scientific, business, and financial capacities are in place, as well as an enabling environment that facilitates their fruitful expression (Donovan et al. 2006). The next section discusses efforts to bring institutions together in multi-stakeholder platforms to enhance collaboration and collective success.

Addressing Complexity Through Partnerships and Multi-Stakeholder Platforms

An important development that has emerged in response to the complexity of SFM and conservation has been the creation of different types of partnerships and collaborative platforms and networks to progress in a collective fashion towards shared goals.

Much has been written on the structure and function of myriad networks and partnerships (Colchester et al. 2003, Galloway et al. 2005). As Colchester points out, networking is not an end in itself, but a means to an end. A host of potential benefits can be cited for networks and multi-stakeholder platforms, including the following examples (Galloway 2000, 2002):

◆ Share strategic planning to progress towards common goals and objectives.
◆ Share information and experiences.
◆ Plan and implement training and technical assistance in a collective fashion to favour technical and conceptual consistency
◆ Co-finance operational activities, such as training, technical assistance, and other shared activities, thereby reducing the costs, and increasing the scope, of training programs.
◆ Create a school of thought around specific activities, such as inventories, management plans, and reduced-impact harvesting.
◆ Generate information through research and monitoring activities that favour shared learning.
◆ Build up recognition, credibility, and self-esteem.
◆ Have a greater voice in policy debate.
◆ Co-operate in the control of illicit activities.
◆ Improve access to attractive commercial opportunities.
◆ Publish experiences and research findings.

In the case of small and medium forest enterprises (SMFEs), mutually beneficial partnerships with other businesses are now often sought along supply chains, including processors and traders. Associations that link SMFEs can also take advantage of increased economies of scale in processing and marketing, and can result in greater bargaining power (Donovan et al. 2006).

A growing international initiative that began with a strong impetus from the Canadian government is the Model Forest Network (Sayer et al. 2005). These multi-stakeholder platforms, located in numerous countries throughout the world, seek to improve forest and land-use governance by linking partners with different perspectives on the social, economic, and environmental dynamics with their forests (Canadian Model Forest Network 2010). Over time, it will be important to research the effectiveness of these platforms to identify elements that favour their success and sustainability.

Box 23.1 Policy Intersection: the Case of European Union (EU)-Indonesian Forest Law Enforcement, Governance, and Trade (FLEG-T)

Ahmad Maryudi

As this review reveals, great attention on problems of forest degradation and deforestation in the 1980s and 1990s focused primarily on developing binding intergovernmental agreements. These efforts eventually gave way to a greater focus on regional efforts and more modest "baseline" policy initiatives, such as improving forest governance and promoting timber "legality." These approaches were influenced by long-standing norms that they must be market friendly, but also new norms focusing on improving livelihoods of forest-dependent peoples. We have seen that these trends focused on both FLEG and FLEG-T as various stakeholders, governments, and businesses sought to move the agenda forward. This box focuses on and provides a deeper probe into the EU-Indonesia FLEG-T negotiations with which to assess the complex, but important, role of intersecting institutions in providing what appears to be a more durable and effective approach than would have been possible by any single individual institution or effort.

These efforts united the support of a range of government, legally harvesting firms, and environmental groups because illegal logging and associated trade was identified as one of the major drivers of forest loss and degradation in Indonesia. Various studies and reports (Scotland et al. 1999, Palmer 2001, Brown 2002, Tacconi et al. 2004, Brown et al. 2005) have indicated the scale of illegal logging in the country. They have concluded that illegally harvested timber greatly exceeds that from legal sources and the permissible cut within sustainable harvesting regimes, and proved to be detrimental to the country economically, socially, and environmentally.

Ensuring the legality

Currently, a range of instruments and measures have been developed to address forestry challenges in Indonesia, which include governmental regulations, tenure reform, market-based efforts to promote legality verification, and forest certification. Institutional intersection of these efforts appears to hold much promise in ways that single efforts are unable. However, failure to carefully "connect the dots" about how these institutions could actually work to make a difference "on-the-ground" has meant that they are not yet achieving their full potential.

Governmental regulations

Domestically, governmental regulations, such as a moratorium on logging, and sanctions and penalties for companies exceeding harvest limits (FWI 2002, Casson et al. 2006), have been put in place to control illegal logging. However, they have had limited effectiveness, in part owing to underdeveloped and even counter-productive regulatory frameworks, lack of enforcement, poor expertise, and insufficient resources. These were all compounded by corruption and collusion among forestry officials and within other state agencies (Scotland et al. 1999, Mitchell et al. 2003, Casson et al. 2006, Maryudi 2008).

The Indonesian government experiment launched a new approach in 2002: the creation of *Badan Revitalisasi Industri Kayu* (BRIK, Indonesian Institute for the Revitalisation of the Timber Industry), which was charged with monitoring and verifying the legality of timber. To accomplish these objectives, a certificate of legality is issued to forest companies that provide all required documents, including transportation permits. However, the ready availability of these certificates on the black market raises doubts about the effectiveness of this approach (Colchester 2006).

Market instrument of forest certification and timber product labelling

In recent years (see section on forest certification), the market-based instrument of forest certification and labelling has been widely promoted as a response to the perceived ineffectiveness of governmental regulations. Yet, as our analysis reveals, certification has not yet gained a strong foothold and significant support in Indonesia. Currently, less than one percent of the country's forests have been certified by either of the two operating schemes, the Forest Stewardship Council (FSC) and the Indonesian Eco-labelling Institute (LEI). The low interest in certification is due to a combination of factors, such as unclear signals for premium prices compared to the associated costs (Mitchell et al. 2003, Maryudi 2005), the negative exposure of being certified (some certified companies experienced constant pressure that their performance had yet to meet certification standards), as well as economic uncertainties (Maryudi 2005).

FLEG-T: A shift back toward governmental approach?

It is in this context that the European Union (EU) has adopted the Forest Law Enforcement, Governance, and Trade (FLEG-T) Action Plan to contribute to the global effort to control the trade of illegally harvested timber in the region, which, as indicated above, links good governance in developing countries with legal trade instruments and leverage offered by the EU's internal market to combat illegal logging. The EU's institutional innovation to address these challenges is through Voluntary Partnership Agreements (VPA) with timber-producing countries that wish to eliminate illegal timber from their trade with the EU is at the core of the Action Plan (Colchester 2006).

EU-Indonesian FLEG-T

EU-Indonesian FLEG-T effort controls the trade of illegal timber harvested in Indonesia and exported to the EU. This is important since Indonesia exports two million m³ of tropical forest products to the EU, second only to Brazil, and accounts for nearly 15% of total EU imports of tropical forest products (FOE 2001, Micski 2008). The voluntary partnership agreements (VPAs) are focused on developing a system of controls, including a clear definition of legality, verification, independent monitoring, issuing of licenses, and chain-of-custody control. This system is framed within timber legality assurance systems (TLAS).

The Indonesian TLAS (SVLK, *Standar Verifikasi Legalitas Kayu*) was submitted to the Ministry of Forestry following five years of negotiations in fall 2008. The lengthiness of the process was due in part to debates about whether the agreement would merely cover distribution and trade of timber products, or cover broader forest management questions, including planning, execution, and harvesting. The final draft submitted to the Ministry appears to adopt the latter. Some have raised concerns that this approach overlaps too much with forest certification, leading to "double" costs and institutional duplication. Such duplication is also asserted to create an institutional environment that "enriches" corrupt behaviour.

A move towards a hybrid model of governance?

Could the promotion of VPAs, in this case through the TLAS, be a case of institutional innovation that might provide effective hybrid governance? Certainly these efforts draw on a number of institutions with different logics: The EU, which provides a lucrative market for many of Indonesia's forest products and from which its own consumers, public, and industry create important political support, holds a strong interest in moving this forward. The use of supply-chain tracking, in part owing to a decade and a half of certification efforts, is now accepted as a legitimate approach that needs greater tending. The Indonesian government, following widely failed decentralisation policies, is looking for an array of initiatives to promote baseline legality and institution building. And the limited uptake of certification has led to more modest aims on the part of global environmental groups to begin with legality, which has the potential to create global coalitions that include companies that operate legally.

Certification systems may play a role in verifying legality and supply-chain tracking. They may also play a role in offering a "ratcheting up" of standards over time in line with market benefits that accrue from a legality focus. In fact, LEI has contributed meaningfully in SVLK's development, and some of its standards appear to have been elaborated within the system. Further, it may be approved by the Ministry to act as a legal verification body using its standards, which would formalise this hybrid approach.

Looking forward

There have been some promising developments. The SVLK draft has been presented to the EU, and has been assessed as to its conformity to the TLAS of EU FLEG-T and, according to the EU experts, it is satisfactory. The Indonesian government has also set up some pre-conditions for the implementation of SVLK, including the adoption of the guidelines for forest companies and the accreditation of verification bodies.

However, as of December 2009, the Indonesian government had yet to approve the SVLK and sign the VPA. Such approval will open the door for an institutional experiment that many argue shows promise in tackling at least some important aspects of illegal logging. Illegal logging clearly is of a magnitude that demands quick and effective efforts. This conclusion reinforces our attention on the need to integrate political science institutions on governance and policy to include in the research, education, and training institutions. In this case, local institutions will be critical in controlling illegal logging. Hence, approving SVLK and signing the VPA appears to hold potential for working in tandem with local institutions to develop a durable and effective institution for reducing illegal logging in the country.

475

23.7 Conclusions

Four key trends emerge from our review. First, no single institution has the ability by itself to successfully adapt to some of the most important and pressing challenges facing the planet. Second, and related, there is no question that institutions have *intersected* to show promise in problem amelioration, as well as to create perverse and/or negative outcomes. Third, and as a result, the key task facing policy-makers is to better understand and nurture the most promising types of institutional configurations. Whether, when, and how this can occur will depend in large part on whether the strategic choices taken by government officials, international agencies, research units, and a range of other forest stakeholders focus on nurturing stable, adaptive, and problem-focused institutional intersections. If, instead, relatively short term and narrow self-interested approaches that do not take into account the broader community in which they are situated end up dominating, institutional adaptation will be virtually impossible. Fourth, greater care must be placed on understanding how institutions and institutional configurations might evolve to gain authority and, ultimately, be deemed appropriate by the citizens, communities, and stakeholders whose problems they seek to ameliorate, whose participation they must encourage, and whose ongoing support and trust they must earn. Such a "logic of appropriateness" is a prerequisite for, but must be matched by, a logic of *consequences* in which a range of stakeholders and communities see genuine progress in promoting environmentally friendly, socially sensitive, and economically viable sustainable forest management.

But how should such an intersection be nurtured? We see two overall steps. First, it is important to reflect on the promises and pitfalls of existing institutional responses and adaptations. This requires carefully reviewing how policy goals and objectives were championed in different institutional contexts, as well as assessing their impact in shaping directly, or indirectly, policy and practices "on the ground." (We note below that while there is significant literature on the former, research into the positive and negative impacts of policy on the practice of forest management requires much more systematic attention.) Second, greater care must be placed not only on assessing policy development by itself, but the processes through which citizens, communities, and forest stakeholders come to provide long-term support for these efforts. We elaborate on these points from two perspectives. First, we review our findings according to their potential in shaping and promoting appropriate policy responses. Second, drawing on Gunningham et al. (1998) and Cashore and Howlett's (2007) notion of progressive incremental change, we reflect on the key requirements of institutional

intersection. We use the case of Indonesia's forest management (Box 23.1) as an example of how nurturing institutional configurations working across global, regional, and local communities has opened a *window* that policy-makers may decide to pass through. We conclude by offering practical options/advice to policy-makers on how other such windows might be discovered, and opened.

23.7.1 The Inability of Any Single Institution to Adapt to Accelerating and New Challenges

What has become very clear from this review is that any single institution, in the global era, will be unable at worst, or sub-optimal at best, to adapt to accelerating and new challenges on its own. At the intergovernmental level, important strides have been made in championing the goal of forest-dependent communities on the one hand, and in neo-liberal norms that give preference to market-friendly instruments on the other. We also review that for over 30 years concerted efforts have been made in attempting to build and craft global institutions that address such problems as deforestation, ecosystem degradation, and poverty reduction, and that promote sustainable forest management. There are, to be sure, a number of different potential intersections of policies and institutions, from voluntary to mandatory, substantive to procedural, national to regional to local, neo-liberal to command and control. What mix is most effective is one of the key questions facing policy-makers and about which our work here raises many questions.

Despite the inability of the world's governments to sign a binding global forest convention, there is no question that this arena has been important for coalescing communities around the science of sustainable forestry through such efforts as the "criteria and indicator" processes and other forest practices policies seeking agreement on the desirable attributes of sustainable forest practices. Yet, by themselves, these global governance institutions lack the authority to create purposeful and meaningful behavioural change at the local level. Attention has now shifted to the international climate arena through REDD, in part because of the greater attention and urgency that has been placed on achieving some kind of climate change agreement. But even in this case, whether REDD will be effective will depend significantly on the types of support, incentives, and capacity development resources that are made available. These include adequate research capacities, including the ability to monitor deforestation and forest degradation over time.

Efforts of single international agencies placing direct pressure on or providing incentives to domestic governments have met with some short-term successes, but few compelling stories illustrating the long-term consolidation of institutional or sustainable development. Efforts relying on fixed-term financial incentives with which to entice sovereign governments to undertake tasks they would not otherwise have embarked upon, though well-intentioned, tend to fall short of the lasting impact believed possible through the utilisation of a "logic of appropriateness."

Recognition of the challenges inherent in these efforts has led to the creation of regional "forest law enforcement and governance" learning networks that were never meant to directly affect "on-the-ground" practices. Instead, the hypothesis behind these efforts was that through learning about "best practices," norms of "good governance," and practical efforts to encourage compliance and reduce corruption, sovereign domestic governments might diffuse such knowledge into their own policies and practices. This approach, however, is not without risks, since governments might opt for tightening control, thereby dissuading producers and rural communities from becoming engaged in SFM. Our review has shown the importance of actions that public sector institutions can contribute to the creation of an enabling environment that favours the involvement of well-intentioned forest users in SFM and the commercialisation of forest products.

Processes such as FLEGT have contributed to the recognition among Northern governments and agencies that efforts to promote domestic forest law enforcement and governance will largely go unheeded if these efforts fail to help provide for long-term financial, technical, and educational support. Signs are now promising in this regard as a range of stakeholders have come to focus on, for instance, how to improve efforts to promote baseline forest governance through institutional intersection.

Policy learning has been instrumental in understanding and adapting policies consistent with the principle of "subsidiarity," in which the default option is to promote policies and institutions at the level "closest" to local communities, when appropriate and consistent with problem amelioration. Our review of decentralisation efforts in the 1990s in Indonesia, and over the last 15 years in Latin America, cautioned that it is not enough for central governments to announce a policy change in which local people will have more influence without ensuring that there are clear responsibilities, rights, and access to resources, and that overlapping rights or conflicting laws are avoided (Agrawal and Ribot 1999). In this regard, even the principle of subsidiarity carries with it an important notion of institutional intersection, as a central government's role in promoting decentralisa-

tion cannot be either a case of empty words, nor of vacating its authority, but instead involves carefully identifying how central authorities, local governments and capacity-enhancing, educational and training institutions will *intersect* to produce meaningful engagement and progress towards strategic goals, such as poverty alleviation and sustainable forestry management.

Our review of tenure reforms in select countries found that when such clarity of purpose of national institutions and local tenure reform was undertaken, important and durable institutions can indeed result that do improve the livelihoods of forest-dependent peoples while promoting responsible forest management (such as occurred in the community concession process in northern Guatemala 's Mayan Biosphere Reserve). While progress in tenure reform has been made in many countries, problems resulting from communities lacking land ownership and/or legal rights to manage and utilise natural resources have undermined attempts to promote SFM and conservation in many regions of the world. Unless considerable progress is made in securing the rights of local people to access and manage forests, it is unlikely that deforestation and illegal logging will be curbed. Reinforcing the need to reflect on institutional intersection, The Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC 2009) emphasised that effective REDD efforts must integrate, and promote, resource use rights of local forest-dependent peoples.

A move from understanding tenure institutions designed to allocate who gets access to forest resources to a focus on what policies have been developed to promote environmentally friendly harvesting practices, uncovered two important findings for our review. First, many developing countries have on their books quite prescriptive forest practices policy *specifications*. In fact, some of these regulations are so prescriptive that it is doubtful that an authoritative global forest convention would ever have contained such clear and purposeful language. It may indeed be that the focus on building an authoritative "top-down" global forest governance institution in the 1990s moved some scholars and practitioners *away* from an assessment of the synergistic potential of two other institutions: national government institutions that produce prescriptive requirements; and knowledge and capacity-building institutions that through constructive engagement with rural communities, indigenous groups, and other forest users, can develop shared strategies and norms surrounding responsible forest practices. Such institutional intersection is important because, unlike a forest convention, these synergistic efforts reinforce, rather than challenge, domestic sovereignty.

While inter-governmental processes seek to reinforce sovereignty, private forest certification ef-

forts sought to *bypass* nation states by turning to the market pressures and global supply chains for policy authority. The Forest Stewardship Council's unlikely coalition of environmental groups, including WWF, social activists, the World Bank, and an increasing number of forest companies, forest owners, and community forests, support an effort that, somewhat ironically, embraces neo-liberalism by attempting to embed in global markets and global commodity value-chain transactions "environmentally friendly" and socially appropriate practices. A number of scholars argue that even though private governance, whether, when, and how these arenas might yield transformative impacts requires that they achieve widespread "political legitimacy" from an array of communities, consumers, and stakeholders. However, even without widespread support of all stakeholders, Auld et al. (2010) and Levin et al. (2009) argue that these arenas could still be important for fostering learning across communities about complex challenges that may either then diffuse to more authoritative governance institutions, or create synergistic interactions in which private authority addresses any gaps in domestic or international public policies. In this regard, corporate social responsibility efforts and NGO-corporate partnerships ought to be evaluated not only on what many claim are limited direct effects, but also on the ability of these efforts to promote greater awareness and understanding across a range of stakeholders about what fundamentally needs to be done to ameliorate key challenges and improve practices

In the case of knowledge-enhancing institutions, we have stressed the importance for private institutions to foster learning about "how things work" across a range of stakeholder coalitions. This is important because, as Sabatier and Jenkins-Smith (1993) argue, such learning can open up new possibilities for widespread stakeholder support for meaningful, problem-focused policy instruments. But just how might strategists and policy-makers nurture such support? We identify one potential pathway, of many, to illustrate the importance of exploring institutional intersection.

23.7.2 Nurturing Institutional Intersection

Any effort to nurture institutional intersection must simultaneously focus on two related, but sometimes countervailing, issues: how to maintain broad coalitions of support while developing meaningful policy goals, objectives and specifications that may risk angering some members of the community for being too weak, and others for being too strong. Likewise, and as our section on knowledge institutions revealed,

lack of understanding about practices in the field, may lead to well-intentioned policy interventions that have unfortunate and negative impacts on the very problems they were developed to resolve.

To be sure, traditional sovereign governments were traditionally regarded as the institutional foundation with which to address these conundrums through the holding of multiparty elections and the development of administrative institutions (bureaucracies/government agencies) with which to understand, learn, and provide resources for a range of locally contextual policy problems. However, and as our review revealed, the global era has meant that decisions of nation-states are never taken in isolation. A very high standard in one country could result in companies fleeing elsewhere or, in the case of many developing countries, lead to a lack of implementation in the forests. As a result, the question for policy development in general, and forestry in particular, is to understand what mix of institutions will nurture and strengthen over time by attaining broad scale notions of appropriateness, while also leading to meaningful, observable impacts. This understanding must also take into account the importance of fostering an enabling environment that facilitates the participation of small and medium forest enterprises, including community-based entities, in SFM.

Three related approaches can guide policy makers in this quest. First, Gunningham and colleagues (Gunningham and Young 1997, Gunningham et al. 1998) have made two key observations. One, they have posited, consistent with our review, that no single policy instrument ever acts in isolation. Hence, it is important for policy-makers to reflect on the types of interactions a proposed instrument might have with existing efforts and whether such an interaction enhances, or takes away from, policy goals and objectives. Two, they argued that when two equally effective instruments are being considered, it's best to choose the one most likely to have the support of those whose behaviour it seeks to address. Gunningham reasoned that such an approach would yield longer-lasting support and hence create durable, adaptive, institutions.

Second, Vogel's notion of "bootleggers and Baptists" captures the phenomenon in which environmental groups and relatively highly regulated business interests sometimes coalesce in order to champion increased regulations on their competitors (Vogel 1995, 2005). Attention to the notion of championing wide-ranging coalitions that support institutions but for very different reasons is appealing, since we would expect these to be much more durable than those in which a key constituency was vehemently opposed.

Third, Cashore and Hewlett (2007) find that long-standing distinctions in the policy literature between "paradigmatic" versus "incremental" change masks

a different process of change in which small steps going in the same direction may yield paradigmatic results but through a process termed "progressive incrementalism." They argue that greater care must be placed in thinking about such a process since it actually captures more accurately what often transpires in the "real world."

Taken together, these three concepts provide a road map with which to travel one potential pathway for promoting potentially positive institutional intersections: producing policies that are likely to have support of the targeted audience, introducing policy interventions that nurture "bootleggers and Baptists" coalitions, and promoting incremental but unidirectional support.

How might an emphasis on these principles promote institutional intersection that would foster adaptation to new and accelerating challenges? First, it would encourage strategists to promote efforts that have, or may have, the support of domestic governments and key stakeholders. This would focus attention on developing the knowledge, training, and expertise in developing countries where strong commitments have been made but in which compliance challenges are immense. In this regard, the learning networks and capacity-enhancing efforts reviewed above fit this scenario, while efforts to build a "topdown" global forest convention do not.

Second, it would focus attention on building market mechanisms that would generate globally important coalitions of "bootleggers and Baptists." This is precisely what occurred when US environmental groups and the US forest products industry jointly lobbied Congress to amend the Lacey Act to limit the importation of illegally harvested wood products. Because these amendments appeal to timber processing firms that seek to maximise profits, even while insisting on utilising wood from legal sources, and to environmental groups focused on deforestation, it can be argued that this change in US policy should turn out to be highly durable. At the same time, such an effort requires a period of "legality verification" that requires nurturing private certification efforts to do so. However, unlike forest certification efforts that pit the FSC against industry-initiated competitors, and largely focused in the North, legality verification tracking *unites* these otherwise competing interests around improving efforts to stem tropical forest degradation.

Third, and most importantly as reviewed above, for the most part, developing countries support such efforts to promote legality and good forest governance. They support them because without adherence to baseline "rule of law," the result can be massive corruption, lost revenues, and political disorder. However, the same reason why there is significant support for "good forest law enforcement and governance" is the same reason why building it will be so challenging. Even if and when widespread stakeholder and societal support for forest law and governance can be achieved, successful implementation requires that these countries have the resources, training, and technological assistance for monitoring real "on the ground" responses and impacts. When both conditions exist, the institutional environment is more likely, we expect, to favour learning and adaptive management.

To be sure, while such a pathway does appear to be currently travelled, whether or not it will yield the kind of problem-solving institutions necessary for addressing the acute challenges facing the forest sector, will depend on whether, and how, progressive incremental changes will continue to occur. Hence, if these efforts stop at baseline legality, virtually no one in the entire community of forest stakeholders sees this as a successful outcome. Instead, the question is whether baseline legality might promote enduring and effective domestic forest law enforcement and governance capable of ensuring access to rights and resources, following acceptable environmental norms, and creating a system in which corruption is reduced for culturally ingrained, rather than coercive, incentives. Likewise, in the private realm, the question is whether private legality verification, which is now being used as the mechanism with which to meet US and EU legality policies and developing country "good governance" objectives, might evolve to embrace higher standards of sustainable forest management that seeks to reward, rather than punish, firms involved in the responsible stewardship of forests. Whether such progressive incremental efforts might occur in this case depends on rewarding the firms that practice at the highest level (and which usually do so because of government regulations) and to creating increased consumer demand and support for their products. The fact that many grassroots small and medium forest enterprises and producer groups have persisted in striving to manage their forests, even when commercial, institutional, and political-legal framework is rife with obstacles, is a testament to the resiliency of these efforts and an indication that, if given a chance, they may progress in a more expeditious fashion than we assume. Also, none of these efforts can be expected to progress in a meaningful way without careful and sustained attention to nurturing knowledge, expertise, and capacity building so critical for achieving and consolidating tangible impacts.

Though the above scenario is just one pathway, we emphasise it because it seems to describe much of what is actually taking place in the world in general, and in individual developing countries in particular (see Box 23.1 on Indonesia). Whether, when, and how it may yield globally important and locally appropriate practices depends in large part on the strategic choices made by today's governments, firms,

479

NGOs, and community officials. This pathway could either result in the "lowest common denominator" approaches in which baseline efforts become the end, rather than the beginning, or it could lead to promising institutional intersections that are heading in a new progressive incremental direction in ways that most single institutional efforts have been unable to accomplish.

Which of these two futures actually occurs depends in large part on the strategic approach of government officials and other key stakeholders. What is clear is that in the global era, what matters most is that policy-makers reflect on the long-term implications of their daily decisions. Taken together, institutions can adapt to new and accelerating challenges. Such an approach requires a much greater integration of scholarly knowledge and practices. Nurturing durable, authoritative, and appropriate governance institutions is fundamentally important. But so, too, is ensuring that these governance institutions develop and adapt policies in ways that intersect in synergistic ways with knowledge and administrative institutions so that local communities possess the skills and knowledge necessary for enduring and meaningful "on-the-ground" impacts (Kenny-Jordan et al. 1999, Durst et al. 2005, Donovan et al. 2006, Pagdee et al. 2006, Sabogal et al. 2008). Without this, the best-intentioned and authoritative policies will have few consequences.

Acknowledgement

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481

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483

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484

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485

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486