Chapter 27 Governance and restoration

Stephanie Mansourian

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Introduction

In the context of Aichi Target 15 of the United Nations Convention on Biological Diversity (CBD) which is to restore 15 per cent of all degraded ecosystems on Earth by 2020, there is a palpable increase in global attention to ecological restoration. While the twentieth century saw strides in our technical competence on restoration, the complexity of the task is frequently compounded by governance challenges. With an increased attention to restoration comes a concomitant need to better understand related governance matters, as well as to promote those elements of governance that will support restoration.

Restoration brings both opportunities and costs to people living near the resource in question, but also to those further away. Who decides what to restore, where and at what cost has an impact on the livelihoods of people, both proximate and distant. It is in this context that this chapter discusses the issue of governance. The emphasis here will be on forests for which there is more data, but other ecosystems will also be briefly considered where relevant.

What is governance?

Definitions of governance abound, and much has been written about the topic, notably in the context of natural resources. This brief overview seeks to summarize the main literature on the topic. Environmental– and in fact broader – governance sets the framework for effective management of natural resources. While it does not equate to management, it provides the elements that contribute to the success (or failure) of natural resource management more generally.

Governance determines who takes decisions, and how these decisions are made and applied. It includes, rights, obligations, institutions, policies, and ways in which decisions related to the environment are taken and implemented (Colfer and Pfund 2010; Hydén and Mease 2004; Lemos and Agrawal 2006). A simple yet elegant definition provided by Chhotray and Stoker (2009) is that governance 'seeks to understand the way we construct collective decision-making'. For the United Nations Environment Programme (UNEP) environmental governance comprises 'the rules, practices, policies and institutions that shape how humans interact with the environment' (UNEP undated).

Important shifts in governance of natural resources have appeared in the last few decades: while until the 1970s, governance was synonymous with the 'command and control' nature of central governments, trends indicate a shift towards decentralization and the expanding role of both civil society and the private sector in natural resource governance (Agrawal *et al*. 2008). Gunningham (2009) defines this 'new governance' in the context of the environment using the terms 'participatory', 'devolved', 'transparent', 'flexible' and 'consensus-building'. This perceptible shift away from centralized government raises numerous challenges beyond the ecosystem in question. Ownership of the resource is one critical challenge, but not the only one (e.g. Agrawal *et al*. 2008). Another important challenge is the different levels of governance that impact on a resource. For example, at the international level global demand for a given mineral and how it is regulated (or not) impacts the local forest near the mine in question. Equally at the national level, corruption impacts natural resource governance. At the local level, conflicts between neighbouring communities over forest access and use rights may also lead to negative impacts on the forest. The different roles of stakeholders and how they relate to each other and organize themselves to take decisions (and how they are enabled and empowered to do so) concerning natural resources is yet another governance challenge.

Improvements in our understanding of the role of governance in natural resource management led to the definition of 'good governance' with a number of principles proposed by several organizations and authors. These normative wish lists include: participation, transparency, responsiveness, consensus building, effectiveness and efficiency, accountability and strategic vision (FAO and Profor 2011; see also www.iog.ca). The Global Accountability Framework also adds 'participation, evaluation and complaint mechanisms' as further key criteria for good governance (Lloyd *et al*. 2007). For Gale (2008) transparency, openness, balance, accountability, deliberation, efficiency, science and risk are key principles for good governance. Moore *et al*. (2010) showed that many of these frameworks share the following fundamental principles for good governance: accountability, transparency, participation and predictability.

Diagnostic tools to analyse the pre-existing governance context have been developed, particularly as concerns the forest sector (e.g. see Mayers *et al*. 2005). Concurrently, minimum governance standards have also been developed as a pre-condition for investment as is the case for example, with the European Union's desire to halt illegal logging, through the Forest Law Enforcement, Governance and Trade (FLEGT) process (McDermott *et al*. 2012).

Many large conservation organizations have developed frameworks for assessing environmental governance. These can be general – for example, IUCN's Commission on Environmental, Economic and Social Policy (CEESP) developed 'The Natural Resource Governance Framework' (CEESP 2016). Alternatively, they can be specifically developed for a particular resource, such as WRI's 'Governance of Forests Initiative Indicator Framework' (Davis *et al*. 2009). The UN's Food and Agriculture Organization developed a 'Framework for Assessing and Monitoring Forest Governance' (FAO and Profor 2011; see Figure 27.1). The World Bank also developed the 'Analytical Framework for Forest Governance Reforms (FFGR)' (World Bank 2009).

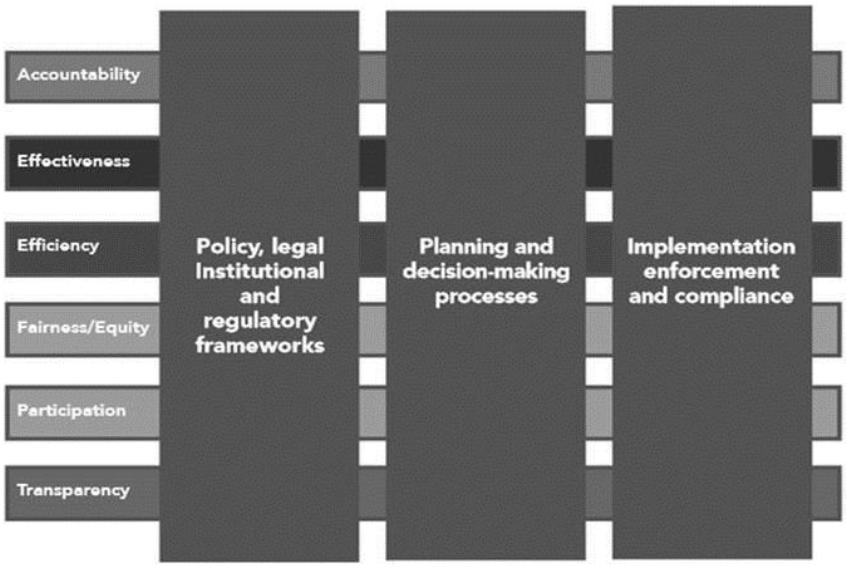

Figure 27.1 FAO's three pillars and six principles of forest governance.
Source: FAO and Profor (2011), reproduced with permission

The emergence of processes linking restoration to carbon markets, such as REDD+ (reducing emissions from deforestation and forest degradation, conservation, sustainable management of forests, and enhancement of forest carbon stocks), will have most certainly spurred on the development of these frameworks. Governance in the forest sector has come under particular scrutiny in the last few decades. Serious concerns emerging because of REDD+ relate in particular to land rights, with the risk that indigenous or other rural communities might be dispossessed of their rights and access to forest resources in the name of climate change mitigation under the scheme (e.g. Phelps *et al*. 2010; see also Chapter 26 in this volume).
In the broadest sense, governance encompasses the socio-economic and political contexts within which conservation and natural resource management, including restoration, take place. This context needs to be understood, at times altered, and definitely contended with in any effort to protect, manage or restore a natural resource.

Evolution of governance in natural resource management
In traditional and pre-colonial societies, it is not uncommon for decisions related to natural resources to be taken – in an 'informal' fashion – by non-state actors (Agrawal and Lemos 2007). However, in western societies, the idea of environmental governance not being the exclusive remit of nation states, can be traced back to the 1970s and to the UN Stockholm Conference on the Human Environment (1972) (Chhotray and Stoker 2009). The next couple of decades, through to the 1990s, saw the increasing desire for international collaboration, standards and regulations on the environment, reflected by the numerous environmental conventions developed in this period – for example, the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, the 1973 Washington Convention on International Trade in Endangered Species (CITES), the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals and the three Rio Conventions in 1992. More recently, and recognizing the importance of local level governance and the role of civil society (which can certainly in part be attributed to globalization, the Internet and the expansion of democracies around the world), models to improve the engagement of civil society and the private sector in formal governance arrangements have appeared.
One significant shift that occurred in the course of the twentieth century with respect to natural resource governance was the concept of protected areas as a way of governing an area with the specific goal (with different degrees of 'strictness') to protect nature. While the existence of some form of protection of land for its natural values dates back centuries, the international legal designation and collaborative effort towards the creation of protected areas dates back to the early days of the Convention on Biological Diversity (Mulongoy and Chape 2004). Although frequently poorly managed, the actual designation of areas (specifically, forests, wetlands or marine areas) as 'protected' has had significant implications on nature conservation but also beyond. Today (as of April 2016), a total of 217,155 protected areas have been 'officially' designated for their natural values, the single largest conscious, collective land-use decision in recent history (UNEP-WCMC and IUCN 2016; Mulongoy and Chape 2004).

However, in many cases, the decision to set aside land for protection was taken by governments in a top down fashion, leading to negative impacts on people and often also on biodiversity. Such poor governance contexts have translated into ineffective management of protected areas and conflict with displaced or neighbouring communities as highlighted in a number of reports (West *et al*. 2006; Schmidt-Soltau and Brockington 2007). In contrast, there is also documented evidence of the

successful impact both on biodiversity and people of the designation of these areas as protected (Ferraro *et al*. 2011; Andam *et al*. 2010; Ostrom and Nagendra 2007). Instances of co-management or effective engagement of local communities in protected areas' decision-making emerging towards the end of the twentieth century have highlighted the relevance and importance of a positive governance framework for successful conservation outcomes.
Recently, the recognition of differing governance realities, led to the further categorization of different forms of governance for protected areas:

(a) governance by government (at various levels);
(b) shared governance (i.e., different rightsholders and stakeholders collaborating to share governance);
(c) governance by private individuals and organizations; and
(d) governance by indigenous peoples and/or local communities (Borrini-Feyerabend *et al*. 2013).

The focus in this case is on the model of governance as determined by the lead actors involved in decision-making related to the protected area.
In both forest and fisheries management, there has been a significant shift in governance towards the use of voluntary market schemes such as eco-labelling and certification, to improve governance and ultimately to attest to the sustainability of the resource (Gulbrandsen 2004).
Lemos and Agrawal (2006) identify four important recent trends shaping the discourse on environmental governance:

1 globalization,
2 decentralized environmental governance,
3 market- and individual-focused instruments, and
4 governance across scales.

Globalization, they argue, can have both positive and negative effects on environmental governance as it may lead to over-exploitation of resources, excessive waste and pollution, but it may also lead to improved standards and global regulatory mechanisms.
Decentralized environmental governance includes greater participation and involvement of civil society in environmental governance, a process which can be traced back to the postcolonial period. For example, decentralization has led to various forms of co-management of natural resources. Decentralization may also signify strengthening of powers of local governments. The role of market and individual-focused instruments, including certification and eco-labelling, has grown in the last three or so decades and results largely from a recognition of government failure to regulate key environmental resources (McDermott *et al*. 2012; Gulbrandsen 2004).
Finally, the reduction in the importance of the exclusive role of the state has been replaced by a recognition of the diversity of levels – from international down to local – at which environmental problems need to be addressed and therefore, the level at which their governance operates. One other important trend of recent relevance with significant impact on governance is the 'triumph of the democratic ideal' (Chhotray and Stoker 2009) that has promoted the wider participation of multiple stakeholders in a growing number of countries.

Why is governance important for restoration?
Restoration practitioners have often neglected governance. Yet increasingly, it is understood as being a critical element to the success of forest restoration (e.g. the special issue of the journal *Forests*

(Guariguata and Brancalion 2014) on governance and forest restoration).
Deforestation and forest degradation have frequently been attributed to poor governance (Speth and Haas 2006) as has the over-exploitation of fisheries (e.g. Allison 2001). The lack of appropriate measures to ensure the effective governance of forests or fisheries contributes to their loss but crucially it can also hinder their restoration. Understanding the root causes of environmental degradation and loss is essential for successful restoration, and frequently these may be traced back to a range of governance failures. They could be related for example, to poor regulation, lack of enforcement, corruption, unclear land rights, poor or non-existent participatory mechanisms, among others. Such governance failures can be highly complex, and exist at the local level (e.g. lack of representative institutions), at the national level (e.g. perverse incentives such as subsidies for commodity crops), or even at the international level (e.g. ineffective global regulation, as exists with fisheries).
More specifically, I highlight here six important issues that relate to the intersection between governance and restoration:

** governance as regulation;
** governance as transformation;
** governance processes;
** governance structures;
** actors in governance; and
** multiple levels of governance.

Governance as regulation
Governance can be perceived as the regulatory context within which restoration takes place. It regulates the way in which restoration can be implemented. Regulation consists notably of laws, policies, but also of soft laws and incentives. Traditionally associated with command and control forms of government, governance as regulation in the context of restoration can equally be made up of international agreements such as the CBD's Aichi targets, or traditional forms of regulating the use of natural resources and their regeneration (e.g. Steurer 2013). While regulation was considered the exclusive domain of government, recent arrangements, including networked governance or collaborative governance, recognize the spread of responsibility among a diversity of actors (Jedd and Bixler 2015; Lockwood *et al*. 2010).
An example of governance as regulation is the Scottish forest policy which includes specific restoration objectives (see Table 27.1).

Table 27.1 Some components of governance impacting on restoration.

Administrative Scale	*Components of governance*	*Examples*
Global	International commitments and targets	Aichi target 15 to restore at least 15 per cent of degraded ecosystems by 2020 (www.cbd.int); Bonn Challenge to restore 150 million ha of degraded and deforested lands by 2020 (www.forestlandscaperestoration.org)
National	Policies	The Scottish forest strategy (2006) has explicit objectives to encourage the restoration of forest wetlands, to support woodland expansion for the restoration of degraded landscapes and to contribute to landscape-scale habitat

		restoration projects (Scottish Executive 2006).
National	Incentives	Fiscal incentives are provided in Paraguay to restore forests on private lands under the Forest Law (Forestry Law 422/73) (Mansourian *et al*. 2014). Financial incentives supporting fishing fleets around the globe lead to overfishing (and deter from restoring fish stocks) (Allison 2001).
Local	Tenure	In Vietnam, privatization of 'bare hills' for plantations, have in many cases marginalized the poor who were dependent on non-timber forest products (McElwee 2009).
Landscape/local	Tenure and rights	In Madagascar's Fandriana-Marolambo landscape, restoration was not allowed in an area that was set to become a protected area for fear that the community would then lay claim to the land once trees had been planted (Mansourian and Vallauri 2012).

Governance as transformation

Changes in governance, notably away from centralized governments towards decentralized mechanisms, empowerment of civil society and the growing role of the private sector, create new opportunities for restoration to be embedded within these new arrangements. Changing or influencing governance arrangements or facilitating new elements of the governance architecture at different levels may be an important component to aid in the implementation and ensure the sustainability of restoration. So for example, at a global level the recent inclusion of restoration within the CBD's targets is likely to have significant impacts on restoration worldwide notably through the development of supportive legislation and increased financial flows. In contrast, continued demand (and related subsidies and incentives) for products such as palm oil, beef or biofuels, reduces the incentive for restoration around the tropical world (e.g. Mansourian *et al*. 2014).

Governance processes

Governance arrangements include processes such as dispute settlement mechanisms, negotiation platforms, mediation etc. (Bingham *et al*. 2005) which can be used to support the restoration effort. Particularly at large scales, such processes can facilitate objective-setting, implementation and monitoring, and will contribute to ensuring sustainability of the restoration effort. For example, in Madagascar's Fandriana-Marolambo landscape – a large-scale forest restoration initiative (see Mansourian and Vallauri 2012) – several local facilitators had to be hired in the course of the project in order to better negotiate implementation practicalities of the project with the local populations (Roelens *et al*. 2010).

Governance structures

Governance structures can for example be joint bodies that represent both civil society and government; or they can include private sector initiatives such as voluntary certification initiatives. Specific 'structures' of governance might also be promoted in the context of restoration, in particular, structures that bring together stakeholders from diverse levels and sectors. Thus, for example, new local level decision-making structures might be established to define the species and sites to restore and to monitor progress. New governance structures that can be helpful for landscape scale restoration might be groups of actors from different sectors with a stake in the landscape.

For example, the Roundtable on the Crown of the Continent (an area spanning over 7 million ha in

western USA and Canada) brought together over 100 stakeholders representing indigenous communities, government and NGOs connected by a common landscape (Wyborn and Bixler 2013). Particularly successful governance structures that could provide useful lessons are the 'wildlife conservancies' in southern Africa where the government has devolved wildlife use rights to communities that are organized as an institution (the 'conservancy') with a constitution, registered members, a committee and locally-agreed boundaries (e.g. Corbett and Jones 2000).

Actors in governance

Recognizing the diminished role of the state and traditional political processes and the rise of civil society and market actors in governing resources (Pistorius and Freiberg 2014), more complex forms of governance are being defined involving multiple actors. An initial swing in governance from government to the private sector was witnessed in the 1990s with the advent of voluntary regulation in the form of standards such as those certifying sustainable fisheries or timber. While their focus is limited – certifying that the resource was sourced from a 'responsibly managed' location as defined by a number of criteria – these approaches have expanded exponentially (albeit more so in developed than developing countries, in part because of their complexity and cost). A parallel transformation occurred in many countries with the empowerment of civil society and in particular indigenous communities.

A number of studies (Charnley and Poe 2007; Agrawal and Lemos 2007) point to the positive relationship between communities' clear access and rights to resources and the quality of the resulting management of those natural resources. In a large scale review by Pagdee *et al*. (2006) well defined property rights and strong community institutions were both found to be vital to ensure effective community forest management. Nevertheless, as cautioned by Ostrom and Nagendra (2007) when addressing complex social-ecological systems, no one size fits all. Today, more complex constellations of actors are being seen as energizing the movement to better govern natural resources. In the context of restoration, these diverse actors mirror the different scales of the challenge: from international donors, companies and investors, to national policy-makers and organizations, and down to local landowners, resource users, farmers, fisherfolk, indigenous communities, and small businesses among other stakeholders (Figure 27.2).

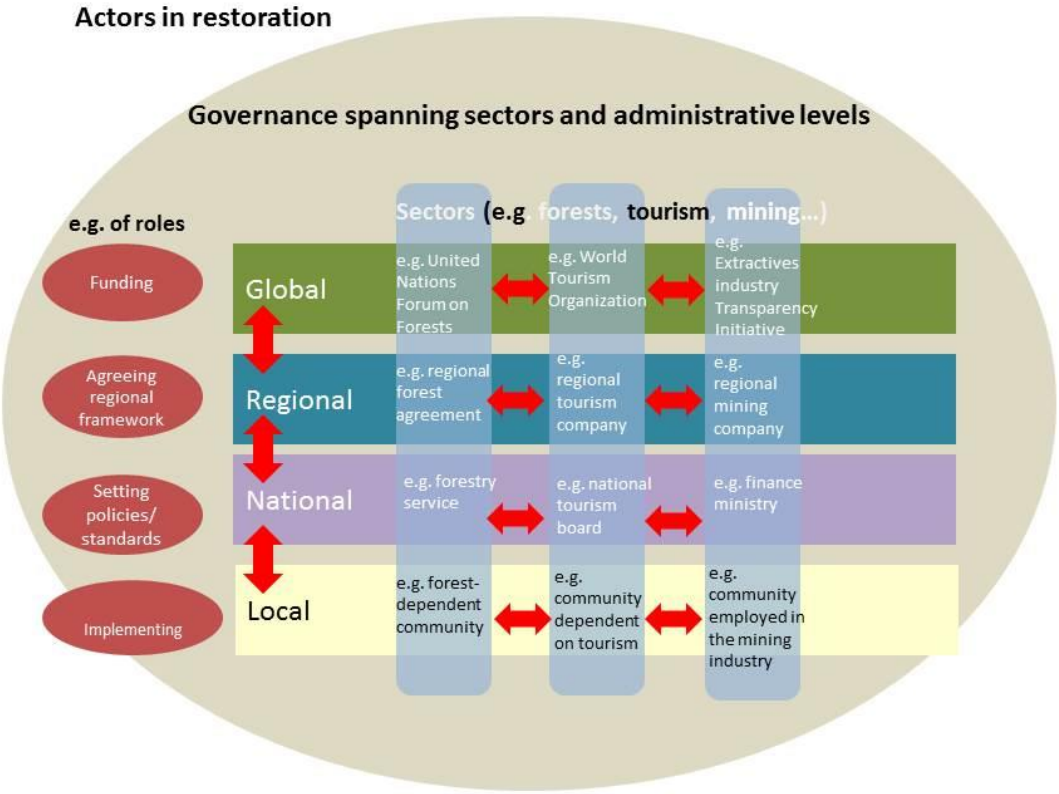

Figure 27.2 Actors in restoration. Actors include those at different levels and from different sectors (only some sectors shown here as an example). They may be involved in different ways, for example, providing funding, agreeing on frameworks, setting policies or implementing restoration actions.

Modes of organizing these diverse actors and engaging with them have been defined as networked governance which emphasizes the linkages between different stakeholders (Jedd and Bixler 2015). 'Collaborative governance' also reflects the recognition that increasingly the collaboration across multiple actors contributes to governance and that this should be both harnessed and somehow regulated (Lockwood *et al*. 2010). In polycentric governance, multiple actors translate into multiple decision-making centres (Ostrom 2010).

Multiple levels of governance

Decisions to restore an ecosystem can be taken at different levels, from the international right down to the local level (Table 27.1). For example, international targets such as the CBD Aichi targets or the Bonn Challenge to restore 150 million ha of forests are all international decisions to restore. At the national level, governments can also set targets to restore a percentage of their territory (e.g. in 2011, Rwanda committed to restore 2 million ha of forests) or to restore a particular area. At the site level, either a community or an NGO might also decide to restore a particular area. For example, in Tanzania the international conservation organization, WWF, has supported restoration around village forest reserves (Mansourian and Vallauri 2012).

Equally, industrial actors such as logging companies or mining companies might also decide – for a number of reasons, notably legal requirements, but also to meet their corporate social responsibility – to restore certain ecosystems or parts of their concessions. Importantly, while ultimately the technical

restoration interventions will need to be local, governance interacts with these interventions in many ways. Both the imperative for restoration and the impact of restoration interface with many levels (Baker and Eckerberg 2013).

Emerging challenges

A number of key emerging challenges can be identified in the context of restoration (particularly forest restoration) that relate to governance.

Generating new values

Restoration, particularly natural regeneration, may take place without any change in designation of land. Evidence exists of traditional and historical forms of land and fisheries governance for example, that allowed for periods of set aside to enable natural regeneration or re-stocking. Yet the change in ecosystem quality resulting from restoration may generate new interests.

Light and Higgs (1996) refer to the concept of restoration generating new values (unlike protected areas that 'simply' conserve existing values). The landscape thus acquires new attributes and in some cases a new designation altogether (e.g. from degraded lands to forests or woodlands). Value creation is particularly critical as it begs the question of 'value for whom?' and triggers real or potential winners and losers. On a small scale, for instance on private land, this is not such an issue. However, on a larger scale and on land that is either public or communal or has mixed tenure, or indeed does not have clear designation, then value addition generates particularly important governance challenges. It may lead to conflicts (for example, where forest has regenerated on previously abandoned land, improving soil fertility for new farming communities) and it may also hamper the restoration effort (e.g. Buckley and Crone 2008). Mechanisms such as payments for ecosystem services (PES) might prove useful to address these challenges.

Competing land use

Increasingly, in a world suffering land scarcity and competition for resources, forest restoration takes place on land that has been, is being or could be used for other purposes. In this context, the decision to restore landscapes implies not using the land for alternative purposes.

Competing land uses are particularly acute in areas where there is either conflict over tenure rights or tenure rights are unclear. As more and more instances of 'land grabs' are being documented (e.g. Borras and Franco 2010; Barr and Sayer 2012) where land that is untitled is being diverted to other (generally market-based) uses, particularly for the food industry or biofuels, this poses a challenge for forest restoration. Poor governance favours these land grabs.

Tenure and rights

Tenure and rights are important dimensions of the governance-restoration relationship. In some countries (e.g. Madagascar) those planting trees appropriate the rights to the land on which those trees are planted. This in itself turns restoration into a political tool and can also prove a strong deterrent for restoration. Equally, when restoring forests, those owning the trees may be different from those owning the right to harvest their fruit and other non-timber forest products. This is particularly true within communities where different members may hold different rights. For example, in Morocco, the state owns argan trees, even though they are on private land; men own the rights to harvest the trees, and women have rights over the products from the trees (Biermayr-Jenzano *et al*. 2014).

The fact that restoration frequently takes place on land owned by diverse stakeholders, for a diversity of reasons (e.g. legal obligation by a mining company, community desire to restore an indigenous species, government imperative to reduce landslides, external company's investment in carbon credits through planting of trees etc.) represents a significant challenge. This can be contrasted with protected

areas where the legal framework is generally already in place, and equally importantly, ownership of the resource is also legally established (and generally limited to one entity) - even if, at times, it may be contested. Security of tenure also has implications for the likelihood of investing in land and land improvement, notably by planting trees or promoting natural regeneration.
The issues of tenure and rights have come increasingly to the forefront with the REDD+ debate, with the perceived risk of REDD+ leading to recentralization of resources (e.g. Phelps *et al*. 2010).

Scaling up

To date the majority of forest restoration efforts have been small in scale (reportedly under 100 ha, Melo *et al*. 2013; Menz *et al*. 2013). The Aichi targets and related global initiatives purport to change this, scaling up restoration significantly to landscape scales (or larger scales). In this context, governance takes on new importance. From their experience in Brazil, Melo *et al*. (2013) highlight a number of governance-related lessons for scaling up restoration, including a clear legal environment, economic incentives, a network of stakeholders with shared restoration interests and collectivized activism.
As increasing attention is being given to the landscape level which acts as a useful unit for reconciling social and environmental concerns, governance challenges need to be better incorporated in these initiatives. Increasingly governance within landscapes is becoming a topic of research (see Görg 2007; Van Oosten *et al*. 2014; Mansourian *et al*. 2014; Guariguata and Brancalion 2014; Kozar *et al*. 2014). Nevertheless, landscapes do not reflect a clear administrative unit (thus, they are omitted from Figure 27.2 above, albeit being of increasing relevance) which in itself exacerbates governance challenges.
However, scaling up also signifies extra costs. A recent study to estimate costs of complying with the Aichi target 15 on restoration, suggests that at a cost of between US$500 and 1500 per ha, a total of somewhere between US$45–75 billion would be needed by 2020 (Pistorius and Freiberg 2014).

Looking to the future

Until recently governance has been poorly understood in the context of restoration. This is changing and it is increasingly being perceived as a critical element of success and sustainability in any restoration effort, particularly at large scales. The issues are complex however, and further tools may be needed to facilitate assessment and implementation.
This chapter has attempted to highlight the major trends currently being discussed in terms of governance of natural resources more generally and how these apply to restoration, using essentially (but not exclusively) literature on forest restoration.
Effective, lasting and large scale restoration efforts will require additional engagement in governance by practitioners. Governance arrangements at all levels will need to be better understood and in some cases, a priority in the restoration effort may be to alter or influence a governance element that could be a stumbling block to the restoration effort and its sustainability. For example, insecure tenure or conflict over land resources may need to be clarified before engaging in forest restoration, while enforcement of existing regulations may be required for effective fisheries restoration.
As the Aichi target and other global commitments are propelling forest restoration (and ecosystem restoration more generally) to the forefront of environmental conservation efforts, there is likely to be an increase in financial flows for restoration. There is an opportunity to influence governance using these financial flows, notably by making them conditional on improvements in specific dimensions of governance. For example, recognizing the specific land rights of indigenous communities might be a pre-condition to funding restoration.
A number of existing instruments might be used to promote restoration and others might need to be developed. In the same way that initially an increased attention on the need to conserve areas for

nature protection led to the definition of legal instruments for protecting these areas, and that the recognition of the need to identify forest products stemming from sustainably managed forests led to the development of certification tools, there may be opportunities to define new tools to not only assess but also to influence and define good governance in the context of restoration projects or programmes.

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