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Landscape Approaches: A State-of-the-Art Review

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Keywords

social-ecological networks, conservation and development, sense of place, landscape governance, T-shaped interdisciplinary model, boundary concept

Abstract

Landscape approaches have become *en vogue* in the past couple of decades. Originating from nineteenth-century landscape geography, this renewed popularity since the 1980s is fueled by debates on—among others—nature conservation, landscape restoration, ecosystem services, competing claims on land and resources, sectorial land-use policies, sustainable development, and sense of place. This review illuminates the ambition and potential of these landscape approaches for interdisciplinary and cross-sectoral collaboration. To show this, we work with a T-shaped interdisciplinary model. After a short history of the landscape approaches, we dive into their key dimensions—from ecology to economics and culture to politics. Thereafter, we bring these dimensions together again and reflect on the integrative potential of landscape approaches for offering common ground to various disciplines and sectors. Two examples of applications are also dealt with: a landscape governance framework and a landscape capability framework.

Erratum >

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1. INTRODUCTION

Landscape approaches that embrace an integrated land-sharing philosophy have been increasingly promoted in science and in practice as an alternative to conventional, sectorial land-use planning, policy, governance, and management (1–10). Reasons behind these integration efforts have been, first of all, the inability of sectorial approaches to sufficiently address the interests of other sectors (such as nature protection in the Tropics, often ignoring the livelihood needs of the poor), to appropriately deal with so-called wicked problems (complex issues laden with many uncertainties such as climate change, biodiversity loss, or sustainability in general), and to address the many trade-offs and inequalities among various competing claims on land and resources by different interests (such as agriculture, mining, housing, leisure, and nature conservation) (11, 12). Landscape approaches have, secondly, also been advocated to make policy, governance, and management more space and scale sensitive (2, 13). Too often, the multiscale nature of issues means that problems escape the sphere of influence of local decision making. Also, the spatial consequences of decisions are often not taken into consideration, leading to external effects elsewhere than in the area that the decision itself focused on (via the passing on of environmental pollution, biodiversity loss, water shortage, erosion, etc.). Thirdly, landscape approaches are also promoted to better understand the linkages among humans and their surroundings. People do not attach themselves to abstract categories such as "the environment" or "biodiversity," but, rather, to tangible landscapes they were born in, live in, work in, or recreate in (9, 14). Finally, some of the landscape approaches have attempted to overcome the classical—often objectivist, naturalist, and static—interpretations of landscapes and present relational, embodied, and dynamic alternatives (15, 16).

A landscape can refer to various things: to geomorphology (soil, water, rocks, etc.), to biophysics (species, habitats, ecosystems, etc.), to production and consumption (mines, industries, shops, etc.), and to meaningful places (village, swimming pool, graveyard, etc.) (2, 17, 18). All these aspects are relevant to landscape approaches, but not all landscape approaches involve them all (6). We present two examples of different conceptualizations, the first more strategic and applied and the second more analytic and academic.

Reed et al. (6, p. 2551) describe landscape approaches as the following:

> A landscape approach is a multifaceted integrated strategy that aims to bring together multiple stakeholders from multiple sectors to provide solutions at multiple scales. It can be broadly defined as a framework to address the increasingly widespread and complex environmental, economic, social and political challenges that typically transcend traditional management boundaries.

DeFries & Rosenschweig (19, p. 19630) contend the following:

> We emphasize . . . that analyses of options at local, national, continental, or global scales require a whole-landscape approach that incorporates the full spatial, temporal, and socioeconomic domains. Spatially, the unit of analysis has often been confined to either agricultural or forested systems, whereas the linkages between these systems are critical to assess dual outcomes for climate mitigation and food security. Similarly, in the temporal domain, [whole-landscape approaches] examine not only deforestation but also post-clearing activities. From a socioeconomic perspective, [they examine] the trade-offs and opportunities for synergistically increasing food production and reducing emissions . . . .

Hence, variety is prevalent in this domain. Therefore, this review is unable to capture all diversity in landscape approaches. Instead of striving for completeness, it offers an analysis of their integrative ambition and potential, while of course listing and discussing the key literature. We do so by (*a*) considering landscape approaches as ambitious efforts to interdisciplinary and intersectoral work and by (*b*) reflecting on the potential of landscape approaches to offer common ground for various scientific disciplines and practical applications.

We elaborate the first part, the integrative ambition, in Section 2, in which we present a short history of landscape approaches. We link our review to a specific interdisciplinary and collaborative model, which builds on the concept of a T-shaped professional (20–22). The key idea is that for successful interdisciplinary or intersectoral collaboration, professionals need to be experts in their own fields in the first place. At the same time, they need to possess the competencies to look beyond the boundaries of these and work together with other experts, while being able to integrate or at least combine different knowledge domains. The logic of our review also follows this T-shaped model, in that the various coauthors coming from different disciplines first elaborate in Sections 3 to 6 the dimensions involved with landscape approaches when viewed from their own disciplinary angles (ecological, economic, sociocultural, and political dimensions, respectively). When taken together, this exposition stands for the base of the "T." Thereafter, we reflect on the potential of landscape approaches in an integrative way (the top of the "T"). Section 7 presents two concrete examples of integrated landscape approaches: The landscape governance framework is an example of how to analyze governance processes in a landscape context, and the landscape capability framework describes some strategic guidelines of how to achieve effective collaboration at landscape level. Finally, in Section 8 we discuss to what extent landscape approaches are able to offer common ground for collaboration and integration among various disciplines and sectors.

2. A SHORT HISTORY OF LANDSCAPE APPROACHES

Area-based or landscape approaches have a long history in—among others—geographical sciences. Von Humboldt (1769–1859), generally recognized as the "founding father" of modern geography, wrote his epos *Kosmos* (1834) in an attempt to unify diverse branches of scientific knowledge and culture into an integrated view on landscapes (23). This was quite unique in an era marked by a general fragmentation of science into different schools (24). The idea of integrated-ness was further developed by French geographer Vidal de la Blache (1845–1918), who conceived his concept of *genre de vie* based on the belief that the lifestyle of a particular region reflects not only the ecological, but also the economic, social, ideological, and psychological identities imprinted on the landscape (25). More recent scientists from various disciplines built on this work, by focusing on the spatial characteristics providing landscapes with a unique spatial identity and so-called sense of place (15, 26, 27). It is this sense of local distinctiveness, shaped by the stories and memories of its inhabitants (28, 29), that makes landscapes a concept that bridges the natural-spatial conditions and societal production in a particular place, or "the spatial-temporal aspects of the metabolism between

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nature and society," tagged into place (2, p. 959). It builds on classical-geographical concepts of landscapes, derived from the old Germanic word *landscipe* or *landscaef* (landschaft), meaning *land* in the sense of an area where people belong to, and *scipe* or *scaef* (schaft), which mainly refers to the shaping of an area or land (30, 31). For Simon Schama (17), a famous historian, who also addressed landscapes in one of his books, "[it] signifie[s] a unit of human occupation, indeed a jurisdiction, as much as anything that might be a pleasing object of depiction" (p. 10). Hence, in its modern sense, landscape thus refers to an area or spatial unit shaped by both natural and sociopolitical processes, and it reflects a high multifunctionality, as it harbors both biodiversity and biocultural functions.

The landscape approach became particularly popular as a new term in the 1980s (7), drawing on integrated approaches from spatial planning (32–34). Inspired by discussions on nature conservation strategies in the global North (35, 36) and fueled by debates on trade-offs between conservation goals and livelihood needs in the global South (7), the landscape approach aims to bring connectivity among protected areas at the landscape level and to reconcile conservation and development objectives within landscapes (8). However, since the 1990s, after the Rio Earth Summit, the landscape approach has been mainly linked to sustainable development, which urges for cross-sectoral, multistakeholder, and policy integration approaches at the "appropriate" scale, including landscapes (19, 37). In the meantime, conservation thinking again broadened its scope toward ecology and society, now embracing a social-ecological system approach toward conservation and restoration, in which the landscape is often considered the appropriate special unit to work in (38, 39). And most recently, the landscape approaches were coined in climate change policy, where integrated natural resource management and integrated land-use planning—particularly regarding agriculture and forestry—are needed to mitigate climate change, besides a transition toward non-fossil-fuel-energy carriers (19). But despite the current popularity of landscape approaches, a single concept or approach of a landscape approach remains elusive, as confusion over terminology, application, and utility has remained (6).

This short overview of contemporary landscape approaches illuminates that they have mostly been associated with nature conservation, conservation and development, sustainable development, integrated natural resource management, land-use planning, social-ecological systems, and—most recently—climate change. As such, all focus specifically on rural issues and on rural development from an integrative and sustainability perspective. However, landscape urbanism has emerged as another landscape approach. Coined by Charles Waldheim at the turn of the century, and building on earlier work of landscape architects (32), landscape urbanism is taking landscapes, ecological flows, and social-ecological networks as points of departure for urban development (40). Gradually, landscape urbanism is merging with ecological urbanism (41). The approach inverts the traditional relationship between city and nature by prioritizing landscape and ecological processes over architecture as a backbone for urban design. Similar to most of the other (more rural-oriented) landscape approaches, it has a strong integrative ambition. After all, the notions of landscape (or ecology) and city, landscape urbanists argue, are not necessarily opposites but, rather, bear great potential for mutually beneficial development. The most common policy and planning concept that implements such marriages between protection of vulnerable natures and architecture design is urban ecological infrastructures (42). For landscape urbanists, ecological infrastructures (situated often on abandoned land or abandoned infrastructural works) should make complex urban systems adaptive and resilient to facilitate better responses to environmental threats and further urbanization. Scientific studies, calculations, and cartography underpin their design (43).

As said, landscape approaches, either more rural or urban oriented, have strong integrative ambitions. This implies that a multitude of scientific disciplines address landscape approaches,

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including ecology, geography, economics, anthropology, environmental sciences, spatial planning, and public administration. However, to what extent should one integrate these disciplinary orientations and is this possible and/or desirable at all? One good candidate for elaborating a landscape approach is sustainability science (44). This science sees as its domain nature-society interactions; tries to address the spatial-temporal scales, functional complexity, and nature-society interfaces of sustainability challenges; and is therefore deeply inter- and transdisciplinary in character (45). However, one may question whether such "deep" integration of disciplines in one scientific approach is possible and preferable. After all, scientific epistemologies differ significantly and are not always compatible (46), and working in many domains at the same time may come with a loss of disciplinary knowledge (20). Therefore, we link our review to a more "modest" interdisciplinary and collaborative model, which builds on the concept of the T-shaped professional (21, 22). As we have already argued, a key assumption behind the concept of the T-shaped professional is that, for interdisciplinary collaboration to be successful, professionals need to be both experts in their own field and capable of looking beyond its boundaries to be able to work together with other experts and integrate—or at least combine—different knowledge domains. Below, Oskam's figure (figure 5 of Reference 21) is adapted (**Figure 1**, here) to explain the implications of the model for professionals, multidisciplinary teams, and interdisciplinary work. Experts trained in a single discipline generally tend to focus on their own discipline or work together between disciplines at best. This means that knowledge is combined, but not integrated. In contrast, T-shaped experts are, besides being well-trained in their main discipline (see the vertical silos in **Figure 1**), also able to communicate and do research beyond disciplinary boundaries (see the horizontal beam in **Figure 1**). In this review, we also follow this approach. Instead of claiming a completely integrated overview, along the lines of sustainability science, we opt for dealing with several key dimensions of the landscape approach. In so doing, we privilege the following ones: (*a*) the ecological dimension, (*b*) the economic and developmental dimension, (*c*) the socio-cultural dimension; and (*d*) the political dimension. However, at the end, we bring these dimensions together again to reflect on the integrative potential of landscape approaches.

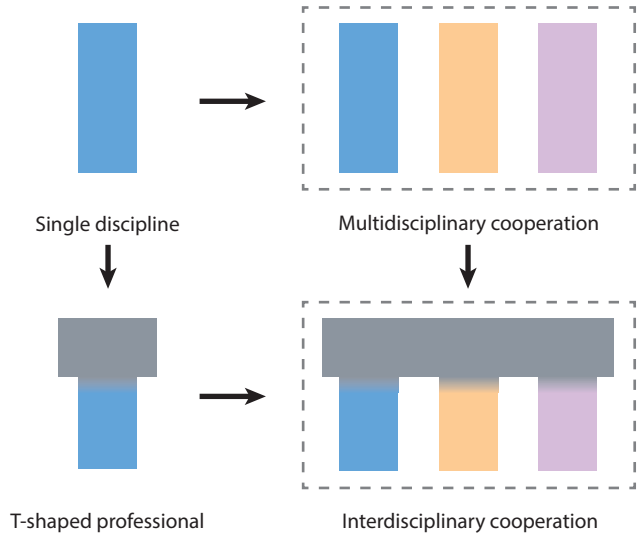

Figure 1

T-shaped interdisciplinary collaboration. Figure adapted with permission from Reference 21, figure 5.

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Before we go into these dimensions, note that landscape approaches are also contested (1, 3, 6, 15, 47, 48). A first criticism concerns their key assumption that win-win solutions for competing interests must and can be achieved at the landscape level, which may be considered naive given the increased and rather incompatible claims over land and resources in many areas around the world. Second, the same counts for the assumed potential of cross-sectoral integration, which seems unrealistic given modern administrations and bureaucracies, built on sectorial silos with distinct logics to govern forests, agriculture, food, urban space, energy, housing, etc. Third, there is no single scientific domain that can claim ownership over the concept, as the integrated nature of landscape approaches contrasts with the disciplinary organization of science. Finally, approaches have also been criticized for glossing over the sociopolitical context too easily, while relying on expert knowledge and consensus building. They might thus deny or suppress environmental injustices and social-economic conflicts. Below, we return to some of these contestations.

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3. ECOLOGICAL DIMENSION

Landscape ecology emerged worldwide in the last two decades of the twentieth century as a merging of physical geography and ecology. Scholars in ecology became interested in how ecological processes were influenced by the spatial heterogeneity of vegetation (49). Landscape ecologists identified the essence of their field as the study of the mutual interference of the spatial pattern in a landscape and its flows of water, nutrients, energy, and organisms (50). Because these flows encompass the full extent of the spatial scale, the scale issue was important from the early beginning on (51). For example, at what level of the spatial scale landscape patterns should be sampled and measured became a key question in developing mapping methods (52). Thus, landscape ecology integrated vertical processes (linking layers in the ecosystem) and horizontal processes (linking places in the landscape).

Distinctive schools developed (37): In Europe and Australia, a stronger focus on cultural landscapes, including man as the main determinant of landscape change, was prominent, whereas a stronger interest in natural processes in relatively untouched landscapes existed in North America, such as the spread of wildfires in Yellowstone National Park (53). The first school was more interested in interdisciplinary approaches, integrated management of multiple-use landscapes, and application in landscape planning (37); the second one was more closely associated with spatial ecology.

Integration in the early years of landscape ecology—which we consider the first phase of integration—had a particular focus on connecting different levels of the spatial scale. To illustrate this integration process, we discuss how the concept of ecological networks developed as a cornerstone in conservation policy. The notion that an effective conservation strategy should (apart from individual, well-managed sites) include a network of protected areas at a biogeographical level of scale emerged as a result of the incorporation of meta-population theory into landscape ecology (54). The basic innovation of this theory was that the survival of species within the various habitats of the landscape mosaic, for example, in a woody patch, is not only determined by how well the wood has developed as a habitat, but also by the size, number, and distribution of woods. This phenomenon is based on two mechanisms, the first being that small local populations in small landscape patches are likely to disappear as a result of chance dynamics. The second mechanism is that deserted patches can become reoccupied by immigrants from elsewhere in the network; the likelihood of reoccupation increases with a better connectivity among the wood patches. The implication of these two interacting mechanisms is that the survival of species in the landscape depends on the interplay between what happens in individual woodlots and what happens at the

level of the network as a whole. This insight provided a mechanistic basis for taking measures in the landscape network, based on an understanding of how network characteristics determine the survival of species (5). An increasing number of empirical and modeling studies confirmed these theoretical assumptions. Subsequently, the emphasis on the landscape level for biodiversity conservation became recognized by conservation ecologists around the turn of the century (e.g., the need for conservation measures at multiple scales; 55) and became effectively incorporated in conservation policy and planning (56).

In the early years of this century, the main outline of ecological network theory and its applications became established. From this point, two diverging lines of research emerged. In one line, the evidence base was improved, e.g., broadening the data base by studying a wider range of species and ecosystem types and quantifying connectivity in an ecologically more realistic way (57). The second line (particularly in Europe and Australia) attempted to counterbalance the growing insight that "every species is different" with the study of general patterns in species-landscape relations that allowed the incorporation of the ecological network perspective into integrative landscape approaches. The use of computer models also played an important role in finding a general logic for integrating single species approaches into so-called ecoprofiles (58). Opdam et al. (59) proposed a way to use this ecoprofile framework in collaborative decision making and showed how it could facilitate negotiations about conservation goals and measures. Others used computer modeling to propose rules of thumb for determining how much of an area was required for a particular ambition level in biodiversity conservation (60). This advancement illustrates a second phase of integration in landscape ecology, in which species' specific information is integrated into a systemic (but still strictly ecological) landscape approach.

The inclusion of man in landscape ecology, not as a landscape vector but as a decision maker, marked a third phase of integration, in which bridges to social and economic sciences were built. One source of inspiration for this movement was the upcoming domain of sustainability science (37), urging for interdisciplinary approaches and cocreation of knowledge. A second source was the recognition that for scientific knowledge to be helpful to society, environmental sciences need to develop an understanding of what makes scientific knowledge transferrable to groups in societal change processes (61). A third source of inspiration was the call for public participation in policy development and implementation. This call was based on several rationalizations, among which the insight that involving the general public in policy and planning could lead to better, practice-based solutions and more support for policy implementation (62). On the basis of such arguments, community-based approaches were advocated in environmental planning and governance (63, 64), inspired by the rise of more collaborative, participative, and communicative forms of planning (65). Drawing on these new theories, landscape ecologists started to adopt participatory methods and to make use of local knowledge. Raymond et al. (66) encouraged a shift from the application of scientific knowledge to local problems toward building on local knowledge for problem solving. Steingröver et al. (67) facilitated a community-based process in a farm landscape in the Netherlands. Here, the farmers wanted to make use of the landscape's capacity to provide for natural pest control, because they believed that producing sustainable food would foster their economic viability. By integrating knowledge from scientific literature, experts, and local farmers, the researchers developed a participatory approach for designing a green infrastructure that would effectively deliver natural pest control.

The previous example is an early application of landscape services (ecosystem services delivered by the landscape) in participatory planning. The concept of landscape services was launched to incorporate the ecosystem services idea in community-based landscape planning (68), creating a conceptual link between form and function of physical landscapes and the social and economic

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values recognized by owners and users. Because the concept was derived from ecosystem services thinking, it initially developed a strong focus on methodological standardization, ecosystem assessment, and economic valuation (69). This focus is particularly relevant for national and international policy arenas, for example, to evaluate the impact of conservation policies; however, in community-based planning, it is all about actor groups identifying what they think are relevant services, and there is no need for strong standardization of service categories. Also, valuation of services is more the result of a social process than of rigorous economic assessment, because values attributed to landscape benefits are designed within the community and are highly context dependent (70).

Although the concept of the social-ecological system emerged in resilience theory (71), its integration in landscape approaches has contributed to interdisciplinary theory and methodology. A promising direction is to conceptualize social-ecological systems as networks (72). In one direction of research, the complex interactions between ecological and social networks are investigated, either empirically (73) or in model simulations (74). Another line of research is to experiment with social-ecological networks in collaborative landscape planning, for example by structuring the planning process as a negotiation process among groups of suppliers and demanders of landscape services (75).

We have described how landscape ecology moved from a reductionist science toward an integrative landscape approach in three phases of integration. The concept of landscape developed from a rather strict ecological conception (although influenced by geography) toward a social-ecological system. However, Conrad et al. (76) show that the innovations described in this section are far from being common sense among all landscape ecologists. Their science remains widely pluriform and includes reductionist and technocratic tendencies, and much work is still done in first and second phases of integration.

4. ECONOMIC AND DEVELOPMENTAL DIMENSION

For the global South, the development and conservation debate of the 1980s set off the development of landscape approaches. Fortress nature approaches, which strictly separate people from protected sites, often through (violent) compulsory relocation processes, have been strongly criticized (7, 35, 77). As an alternative, people and nature-focused goals were brought together in so-called win-win scenarios, for example, in Integrated Conservation and Development Projects (ICDPs) and Community-Based Natural Resource Management (CBNRM) initiatives (77, 78). CBNRM aimed to support people in local communities whose livelihoods strongly depend on natural resources, such as forests and biodiversity, and on the conditions of conservation and sustainable use. Whereas these approaches were community oriented and therefore very locally minded in the 1990s, today they include other resource users beyond localities and make links to international markets, value chains, and certification programs (79). Some conservationists nonetheless continue to advocate strictly protected areas to halt biodiversity decline, because they believe that CBNRM and similar initiatives have been ineffective (80). But these highly polarized debates have been confronted with ever more evidence that both CBNRM and fortress nature approaches have their own advantages and disadvantages, and each can work or fail in specific contexts and conditions (80, 81).

In the global North, landscape approaches have particularly emerged from landscape ecology and conservation debates (see previous section). But currently, these approaches become ever more linked to ideas of so-called productive landscapes and promising business opportunities (29, 82). The former holds that strong ecological matrices are not restricted to (semi)natural landscapes only, but also appear in mosaic landscapes, which are formed by heterogeneous land-use systems that—pieced together—form an overall landscape-level patchwork (83). Such mosaics do not

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only exhibit high levels of ecological coherence and connectivity, but also high levels of agro-biodiversity that give ample opportunities to ecologically sound and economically productive use of landscapes (84–86). This productive interpretation of landscapes definitely offers more scope for the combination of ecological and economic goals than the classical protective interpretation. Moreover, it promotes stronger private sector engagement.

Today, landscape approaches are increasingly embraced by companies, recognizing landscapes as a source of resources and income (6, 29, 87). Examples include manufacturers and traders in agricultural and forestry commodities, such as Unilever, Cargill, Olam, Asia Pulp and Paper, and Heineken. Landscape approaches are ever more used by such companies as conceptual bases for their sustainable sourcing: to secure supply, to reduce risk and volatility in raw material supply chains, to combine economic returns with sustainable land use, to comply with international (often voluntary) certification standards, to satisfy consumer and non-governmental organization (NGO) demands, and to optimize stakeholder collaboration within their sourcing areas (88). The approach is also seen as opening up opportunities for innovation: By focusing on people's demands for sustainable products, companies can innovate their farming methods, improve product quality, and renew their branding. Although the majority of globally traded agro-food commodities continue to be produced as mono-cropping regimes, striving for agro-ecological diversity within sourcing areas is a trend of growing interest, but as yet with rather low levels of application, exemplified by the still limited production areas of commodities adhering to voluntary sustainability standards (89). Besides certification, so-called payments for ecosystems services have also been proposed as economic incentives for private sector investments in landscapes (6). But despite their beguiling attractiveness, especially for the sustainable use of common pool resources, such as water, forests, and carbon, their uptake has also been rather limited so far, beset by financial, ethical, and organizational challenges (90). Nonetheless, the economic and development-orientated approach to landscapes seeks to provide multiple win-win solutions and fits nicely in the rhetoric (and practice?) of the private sector to move toward environmentally and socially responsible production. It thus reflects an ecological-modernist discourse, satisfying both the private sector and the environment (1).

In 2014, the landscape approach gained global business attention through the adoption of the New York Declaration on Forests, a call for action by leading international corporations to "[a]t least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030, and support and help meet the private-sector goal of eliminating deforestation from the production of agricultural commodities by no later than 2020s" (New York Declaration on Forests, 2014; **http://forestdeclaration.org/**). Although a nonlegally binding document, it commits its signatories to drastically change the way in which they do business. As a result, the Zero Deforestation Movement was born, representing a private sector–led initiative to eradicate deforestation from their operations and commodity chains (91). One of the key instruments identified to achieve zero deforestation is a landscape approach. Such an approach from a business perspective would make perfect sense, as it looks at sustainable business beyond the boundaries of a single supply chain, taking into account the ecological and social functions of an entire area.

Motivations for the private sector to engage in sustainable landscape approaches are criticized, however, as being bad alternatives for government regulation; as inducing privatization of natural resources, potentially excluding other players; and for helping corporations gain ever more control over societies (92). Corporations are also said to be very successful in reframing their business models as being responsible, while only superficially changing their modes of production (88). In addition, evidence of positive impacts of voluntary measures on social, economic, and environmental aspects is scarce (89). Of concern, too, is (in)equality of costs and benefits to different stakeholders in a landscape, as well as social and environmental externalities not accounted for in current economic and business models (90).

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5. SOCIAL-CULTURAL DIMENSION

For a long time, landscape has been considered a "functional" space (25). Landscape was conceptualized as a "given setting" for economic activity, agriculture, forestry, housing, etc., in social sciences and geography. However, with the rise of social constructivism, the presentation of landscapes as meaningful places came to the fore. The grandfather of social constructivism in geography, Lefebvre (93), presented space as a conceptual triad: besides lived space, where activities take place, conceived space and perceived space have to be taken into account as well. A wide group of scholars followed, defining place in terms of its presumed meaningfulness (94–96). Gieryn (97), for example, argued that it is through the attachment of place with meanings, practices, representations, and people that a place becomes different from space. Agnew (98) outlined three fundamental aspects of a "meaningful location," that is, location, local, and sense of place. The increased interest in landscapes as socially constructed and as sites of subjective experiences spurred scientific publications on concepts such as landscape identity and sense of place.

Sense of place is rooted in the social-discursive scientific approach and the phenomenological tradition (99). Phenomenology encourages a dynamic understanding of the relations between people and landscape, whereas the discursive approach provides understanding of the processes through which these relations are constructed in stories, discourses, and narratives. Sense of place refers to the dynamic interaction between people (including their senses) and their environment (100). People reconstruct, represent, perceive, or cartographically denominate a landscape with the aim of "situating" and then "placing" themselves. It includes place attachment and feelings of socio-territorial belonging and the ways people subscribe symbolic and cultural meanings to a landscape in varied cultural contexts. A distinction has been made between sense of place as an essence of character, specific to a location and dependent on a series of factors, and the way people experience, use, and understand place (101). Literature shows an abundance of different terms with similar or overlapping meanings such as place attachment, place identity, place satisfaction, sense of belonging, community cohesion, and genius loci (9, 102).

Sense of place has specific relevance for the debate on landscape conservation and development. Scholars have suggested that strong bonds between people and places can foster proenvironmental behavior, given people are motivated to protect places that are meaningful to them (103). Having an emotional bond can positively influence the intention to maintain valued qualities of the environment (104, 105), and the willingness to actively contribute to environmental solutions (106). However, this is not a straightforward relation; moreover, conflicting meanings can also be the source of natural resource management controversies or can inspire local opposition to renewable energy developments (3, 107).

Landscape identity has interested human geography scholars in particular (108). Localized identities provide a dynamic base for progressive political mobilization, but also for reactionary, exclusionary politics (109). Not only the identity of a specific landscape can be a source of contestation, but views of what identity actually means can be, too (110). Landscape identity is not given and not possessed—it is mobile, moldable, and coconstructed, rooted in the perceptions of people and the meanings they attach to landscape. Landscape perceptions form the basis on which landscape narratives, stories, and discourses are constructed. Narratives assign a sense to events that happen in a given context; by constructing a story, people make these events understandable (111). Storytelling is considered a promising tool for landscape development; through dialogs and persuasion, actors (individuals, organizations, government institutions) can adapt or align their narratives and proceed to collective action. For example, storytelling in leisure landscapes can support the bonding and bridging among stakeholders, thus constructing landscape identities (112). Such storytelling and identity making can be a political project, aimed at branding, developing,

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or promoting a place, which is, however, favoring particular strategies or interests and resulting in the exclusion of others (113).

Among others, Bell & York (114) ask whether identity has become less relevant in today's society, where change mainly seems to happen in the face of mobile capital, diffusion of new technologies, and globalization processes. When landscapes lose their distinctiveness, they might lose their local identity and significance (115), which can result in a loss of sense of place as well as so-called erasure of place (116), placeless-ness (117), or even nonplaces (118). However, a counterargument is that the generic process of globalization plays out differently in various landscapes. Exogenous factors are not merely adopted in a local context, but also result in spatially varied outcomes, leading to so-called territories of difference (116). As Escobar notes (116), "Even if we emphasize the emplacement of all cultural practices as a result of global generic forces we have to consider (global) capitalism as a cultural practice which varies between places." Furthermore, generic processes such as globalization do not just happen to people and places. Actors at the local level reproduce and transform the identity of landscapes by their meaningful conduct, either intentionally or unintentionally, resulting in a hybridity of global and local forces (119).

Especially in policy and planning, landscapes have often been understood as a geographically bounded or administrative territory, subject to planning and policy intervention. These notions are contrasted by more relational approaches emphasizing the importance of networks and connectivity (15). With the so-called relational turn in geography, landscape can be considered an outcome of social relations and interactions stretching beyond geographical boundaries. A good example is a river landscape, which connects varied activities, across different administrative areas. As a consequence, landscape considered from a relational perspective does not have a pregiven identity or quality (120); its qualities are established in social practices, constituted in and through social relations and interactions (15, 120). Identity is thus continuously negotiated and not always something that has to be preserved; it can even be transformed for political reasons. This also implies that global and local forces that have a transformative impact on landscapes are mutually constructed (15). Notions such as entanglement (121) or assemblages (122) express such a relational perspective, pointing at the relevance of connectivity.

Collaboration and engagement of society, key to the social dimension of landscape approaches, build on the existence of social capital. The concept of social capital stems from sociology and economics and refers to networks, cooperation, and social trust (62, 75). A distinction can be made between social capital described as social solidarity, trust, and networks, which comprise the "glue" that binds people together (123), and social capital as a resource (124), unequally dispersed in a landscape and contributing to uneven power relations (75). A starting point for collaboration in landscapes is the creation of a shared spirit, by organizing a setting where people can jointly reflect on the qualities and potentialities of a landscape. An involvement of key persons can start such a "spiral" process of place-shaping among an expanding range of actors, practices, and impacts. For example, leadership plays an important role in such processes, to strengthen social capital and foster institutional reform (125). Some leaders "lead by doing," bonding people, whereas others "lead by talking," bridging groups of stakeholders. In addition, the involvement of artists can support a new, creative, and fresh perspective, as they are highly capable of visualizing new futures in landscapes (126).

The cultural dimension of landscape approaches is, for example, evident in notions such as cultural practices, cultural landscapes, and cultural heritage (127, 128). In this context, the notion of territorialization was introduced to capture the process through which culture and nature interact and coproduce landscapes via three dimensions: reification, symbolization, and institutionalization (129). Reification encompasses the practices of occupation, use, and transformation of landscapes. Here, culture influences the way people use, reuse, and add value to natural resources, which are

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expressed in behavior and materialized in cultural landscapes. Actor-oriented theory (130) and practice theory (128) are suitable to analyze these coproduction practices at the microscale as they pay attention to symbolization. Finally, institutionalization shapes "the rules of the game," routines, organizations, and ways of cooperation through which landscapes are governed and constructed.

One could argue that the "socialization" of the landscape reached its peak with this relational, social-constructivist approach, where physical landscapes, landscape narratives, and landscape discourses almost became one and the same. Although social constructivism has provided an important lens with which to analyze subjective and cultural aspects of landscape, it does not offer a complete picture of landscapes being complex hybrids of nature and culture, of local communities, and of their physical environment. The above notion of coproduction, however, inspired by actor-oriented theory in rural sociology (130), refers to the mutual constitution of the social and the natural. We would argue that this notion brings the relevance of materiality, nature, and physical aspects of landscapes (again) to the fore. Especially the concept of affordances (131) is helpful here. It refers to the opportunities for action that the environment provides to social actors. Not just human agency shapes landscapes, but also nature has agency (121, 132) in the sense that it affords certain practices. Examples are the extent to which the physical characteristics of a landscape are suitable for particular agricultural practices.

6. POLITICAL DIMENSION

Besides being physical entities, landscapes are also socially constructed and thus shaped, bordered, and governed by humans in certain ways, for example, by ordering and bordering a certain area, assigning combinations of functions to it, and designing plans and policies for future developments in landscapes (2, 47). Sometimes such orderings, borders, functionalities, and trajectories are stable and taken for granted; in other cases, these are fluid and contested. But how do these processes work? And who decides? What are the intended and unintended consequences for humans and nonhumans living in those landscapes? And who wins and who loses from such territorialization processes? All these questions are highly political in nature. Therefore, political science has had an interest in spatial formation processes right from the birth of its discipline. Initially, scholars focused on international relations, nation-state formation, and geopolitics (133, 134). The chief question raised was how, over time, cultural institutions of nations and political institutions of states became strongly aligned with particular territories and borders. Conquests, civil and independence wars, interstate conflicts, and various forms of diplomacy all contributed to these nation-state-formation processes (135). Today, much more emphasis is, however, put on reterritorialization processes beyond the nation state, such as globalization, Europeanization, global cities, decentralization, and cross-border regions (28, 47).

Similar to political science, the subdiscipline of political geography foregrounded the role of politics (136). Besides being interested in how politics shape spaces, scales, and places, political geography thoroughly studied the inverse relationship: how spaces, scales, and places shape politics. The example of transboundary river basin management is illustrative (137). The biophysical characteristics of a river that crosses various political territories may cause interstate upstream-downstream conflicts, as we have seen with regard to the Rhine River in Europe and the Nile River in Africa, or they may in contrast urge for transboundary cooperation, for example, on ship navigation or water pollution (138, 139). Political geography is also interested in studying state territory formation processes, transboundary conflicts and war, peace building, political organizations, social movements, globalization processes, etc. (136). Hence, there is much overlap between political science, the study of international relations, and political geography. But cultural

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geography, too, emphasizes the role of politics and power in the making of landscapes (18, 140). Cultural geographers ask who owns and controls landscapes; to whose benefit this is; and who loses out, how power asymmetries come about, and how these codetermine what we consider valuable in a landscape.

The concept of landscape governance is a relatively new kid in town in the domain of geopolitics and political geography (1, 2, 10, 13, 73, 71, 141). It builds on the notion of environmental governance that refers to "the set of regulatory processes, mechanisms and organizations through which political actors influence environmental actions and outcomes; it includes the actions of the state and, in addition, encompasses actors such as communities, businesses, and NGOs" (142, p. 298). Görg (2), however, argues that the environmental governance literature misses the spatial reference in three specific ways: (*a*) It hardly thematizes the role of space, scale, and place in governance processes; (*b*) it merely lacks the rescaling of statehood vocabulary in its analyses of the transformation of the nation state; and (*c*) it hardly links social (including governance) processes to their biophysical and material conditions. Görg (2) believes that the notion of landscape governance has the potential of capturing these three spatial aspects in its analysis. It incorporates multiscalar, global-local processes in the analysis of landscape formation (47, 143); it shows how politics and authority are (re)shifting among various administrative and spatial levels (see 13 and 144 for a description of glocalization); and it adds the biophysical and material conditions to social analysis (see 38, 71, and 132 for a description of work on social-ecological systems and actor-network theory).

Although Görg does not present a short definition of landscape governance in his path-breaking paper, he argues that, firstly, landscapes are socioculturally shaped and naturally constituted entities and therefore not ontologically pregiven. Therefore, the shaping of landscapes should be the starting point of any governance analysis, and not their fixed state of the art. Secondly, landscapes are neither pure objects (natural sciences' view) nor social constructs (social sciences' view); such implies that interdisciplinary work is needed to understand landscape (trans)formations. Thirdly, landscapes involve a wide spectrum of "nature's socialization" (from protected areas to urban centers), so landscapes are by definition hybrids; that is, landscape governance deals with the interconnections between socially constructed spaces and "natural" conditions of places. Fourthly, landscape governance directs attention to the need for cross-sectoral land-use policy, including agriculture, forestry, water management, housing, urban development, etc., such as expressed in notions like policy coordination or policy integration (145). But Görg also argues, finally, that landscape governance and its policy integration ambitions have to go beyond an instrumental and technocratic perspective—as if governance is an apolitical process about mobilizing the best expertise and building consensus among sectors and stakeholders only. On the contrary, it is highly political in nature and should therefore build on the politics of scale literature, according to Görg (143, 146–148).

Politics of scale can be understood as "the social production and political contestation of geographical scales and their orderings" (143, p. 604). It is about the construction, scaling, and contestation of landscapes through political processes at various levels: local, national, and international. In such power-laden processes, win-win solutions and trade-offs hit some sectors and interests more than others. At the same time, actors have always (at least some) agency as well. Such implies that attaching importance to the politics of scale also means that hierarchical metaphors are no longer adequate. Metaphors such as the Russian doll or the cascading system, for example, give expression to the idea that global forces determine local realities. Rather, landscape governance is considered the result of horizontal, networked, and "glocal" forms of landscape (trans)formation in this literature (1, 147). In such multiscalar processes, local actors are considered to have agency alongside other actors, and they are recognized as potentially capable of doing things other than

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those things global drivers seem to forecast. But mechanisms of inclusion and exclusion in the governance of landscapes and its (lack of) democratic justification are also part and parcel of this literature (149).

The politics of scale literature has much in common with the critics of the post-political era that commenced in the 1980s. Post-politics is understood as the many different ways in which technocratic mechanisms and expert knowledge, the key instruments of participatory governance and deliberative consensus-seeking approaches, discipline actors in such a way that there is not much left to choose from (150, 151). These streams of thought are relevant in the context of landscape approaches, because these particularly focus on integration, consensus building, and expert knowledge. Critical theory of post-politics, however, takes issue with this approach and instead welcomes critical alternatives to mainstream political thought. Key thinkers behind this philosophy are Chantal Mouffe, Slavoj Žižek, and Jacques Rancière (150). They particularly argue against theorists such as Jürgen Habermas and Antony Giddens, who believe in the possibility of rational consensus-formation based on open and power-free deliberations. However, governance processes are hardly ever open and power-free; therefore, power inequalities, social injustice, and disciplinary techniques should be deconstructed and tabled, if not protested again.

The politics of scale and post-politics literatures relate to an important debate in the (landscape) governance literature: whether a managerial/hands-on approach or a political/critical approach should be prioritized (47, 137, 142, 150, 152, 153). Many governance studies exhibit a strong instrumental focus; they analyze how state and nonstate actors design and implement policies jointly, without giving much attention to political dimensions, such as formal decision-making authority, power inequalities, ownership and access to political resources, unequal distribution of outcomes and (lack of) democracy and justice. A strong belief in multistakeholder collaboration, win-win solutions, and social engineering is vibrant in this literature. In response, various scholars emphasize the need to analyze the politics and post-politics of governance. Besides analyzing the disciplinary practices of landscape governance, they emphasize how participation may lead to a shift of power to those who can voice their arguments best, why stakeholder participation is difficult to align with representative democracy, and how a shift from government to governance might lead to an erosion of public services.

7. EXAMPLES

In this section, we elaborate two examples: (*a*) a landscape governance framework and (*b*) a landscape capability framework. These examples illustrate how integrated landscape approaches have been used in practice. The first framework was developed to analyze governance processes and how these relate to landscapes. The second framework describes the capabilities required to achieve effective collaboration at the landscape level and is advocated as a set of strategic guidelines. These two examples, albeit quite different in nature, serve to illustrate the variety of ways in which landscape approaches may work in practice.

7.1. Landscape Governance Framework

Buizer et al. (1) present a landscape governance framework to analyze a Dutch case of an initiative called Farming for Nature. The initiative aimed at enabling a more profound integration of farming and nature objectives than was made possible in the scope of the then valid European and Dutch agro-environmental policies. The ideas were trialed in selected landscapes, with the underlying idea that the eventual elaboration of the ideas would not be generic but landscape-specific. The income from farming would, however, diminish for the participating farmers; therefore, the

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initiative involved the establishment of a long-term regional fund to compensate them for their contributions to the conservation and development of natural resources and recreational values in the landscape. Importantly, this part of the initiative gave rise to long drawn-out negotiations between local actors, the Dutch government, and the European Commission, as the latter considered these payments as potential "illegal state support." Eventually, the involved actors reached agreement and the initiative was awarded the status of experiment.

The landscape governance framework presented in the study builds on Görg's approach (2) and consists of three interrelated dimensions: discourses, institutional practices, and natural-spatial conditions. The three dimensions aided in obtaining a more in-depth understanding of how scale politics and the interactions among different actors at different levels of governance played out to transform the local landscape. In terms of institutional practices, the analysis "revealed how initially small coalitions exerted agency and were able to mobilize support for their integrative ideas by navigating between local, regional, national, and supranational levels" (1, p. 459). These coalitions, by engaging in such a politics of scale, were able to move from a rough idea to a coherent policy proposal. The natural spatial conditions played an active role in this process too. The involved actors used the constraints and possibilities of the local landscape to make their claims and mobilized the environment to generate support. Creating meeting places with hay bales for an important meeting with key decision makers, and having Clara the cow bring in a document that needed to be signed, might seem trivial but are telling examples of how these material, physical elements were drawn on. Moreover, the physical landscape also changed as the experiments unfolded: Trees were cut, marshes were created, and new species arrived. However, the conclusion so far misses part of the story, because zooming into the third dimension of discourse tells us more. Gradually, the initiative had adopted the mainstream language and practices of the Dutch and EU policies at the time—notably promoting agricultural development according to the market-productivist discourse and according to the idea of nature being makeable. These mainstream discourses started to overtake the initial, alternative ideas of the Farming for Nature initiative, for example, that values of a landscape should not all be translated into quantitative, let alone monetary variables. However, discussions about how the dominant market-productivist discourse prevented agricultural practices that would go a long way in benefiting natural values and the living environment did not occur. Part of the initiative's original ideas was therefore silently removed from the negotiation table, and the political questions involved in them remained implicit.

Overall, on the basis of the above analysis, the study argued that attention on the displacement and containment of political arguments and conflicts is warranted and that a focus on the interrelationships among the three dimensions of landscape governance—discourse, institutions, nature—deepens the analysis and conclusion.

7.2. Landscape Capability Framework

It is clear that there are no defined end points to landscape approaches, neither are there blueprints for their implementation. Instead, adopting landscape approaches in practice requires an iterative process of trial, adaptation, and learning, tailored to the specific socio-spatial conditions of place. But who is to design and facilitate such iterative processes? Who are the interdisciplinary landscape professionals having the capacities to do so effectively? And which are the particular capacities that they require? It is for this reason that Sayer et al. (8) developed a set of design principles to guide landscape-level processes in an inclusive, democratic, and transparent way. These ten principles are based on the conviction that landscapes are multifunctional socio-ecological systems, and that their governance aims for the achievement of multiple objectives, through integrative activities on

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the ground. Such a process is hardly predictable and should be characterized as muddling through and learning by doing rather than careful design and planning.

The Ten Principles for a Landscape Approach to Reconciling Agriculture, Conservation, and Other Competing Land Uses are as follows (8):

1. The dynamic nature of landscapes forms the basis for continual learning and adaptive management.
2. Intervention strategies are built on common concerns and shared negotiation.
3. Landscape processes are shaped by influences from multiple scales.
4. Landscapes are multifunctional by nature, which requires choices and trade-offs.
5. Multiple stakeholders frame objectives differently, hence all stakeholders need to be engaged.
6. Trust among stakeholders is crucial to build up a negotiated and transparent change logic.
7. Clarification of rights and responsibilities, especially regarding land and resource use, is a necessity.
8. Monitoring of progress has to be done in a participatory and user-friendly manner.
9. System-wide resilience is to be achieved through recognizing threats and vulnerabilities, and the capacity to resist and respond.
10. The complexity of landscape processes requires strong capabilities of all stakeholders involved.

In 2014, the same group of authors published a new article, reflecting on the outcomes of seven landscape initiatives, while assessing their level of application of the ten principles (154). In none of the seven initiatives were the ten principles systematically applied. Instead, practitioners drew on them selectively, and adapted them to specific local conditions and needs. In all cases, institutional hindrances and power disparities hampered the development of consensual, integrated, and enforceable spatial plans, and capacities to overcome these hindrances were generally low.

It is to this end that the Wageningen Centre for Development Innovation (CDI), in collaboration with some of its partners from the global South, developed a framework (**Figure 2**) for assessing and enhancing landscape governance capacities. The framework and its operationalization are built on various governance and capability theories (2, 10, 155–158). They have been used to conceptualize landscape governance as a capacity, reflecting the ability to overcome institutional hindrances and power disparities through (*a*) shaping public-private dialogues; (*b*) harmonizing stakeholders' views and interests; and (*c*) creatively crafting institutional mechanisms for landscape stakeholders to meet, deliberate, and learn that are tailored to the socio-spatial conditions of the landscape. In short, the five specific capacities can be summarized as follows:

1. the capacity to "think" landscape, not only to understand the natural-ecological characteristics of a landscape but also its socio-cultural identity and sense of place;
2. the capacity to achieve internal coherence, by embracing a landscape's diversity of stakeholders, and facilitating multistakeholder collaboration across levels and scales;
3. the capacity to make institutions work for landscapes, by recognizing and capitalizing on endogenous landscape institutions, and building new institutions connected to wider policy frames and markets;
4. the capacity to create marketable landscape values by nurturing entrepreneurship, creating sustainable landscape business models, and attracting landscape finance;
5. the capacity to manage resources, by understanding endogenous management systems and identifying options for more scientifically based resource management systems, participatory spatial planning, and decision making.

The framework has been applied in various contexts, by using interactive methods such as soft systems methodology, to gain insight into what would be appropriate in terms of engagement.

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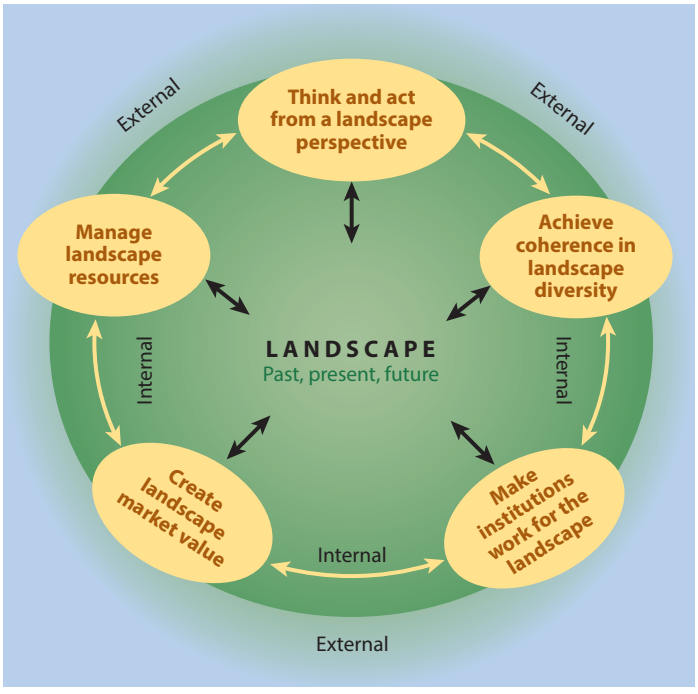

Figure 2

Landscape capability framework. Figure adapted with permission from the Wageningen Centre for Development Innovation; Landscape Governance Capacity Framework: Towards a framework and approach for assessment and strategic guidance of landscape initiatives (**http://www.forestlandscaperestoration.org/tool/landscape-governance-capacity-framework**).

With the Horn of Africa Regional Environmental Network, CDI used the framework to assess the capacities of its regional landscape facilitators to systematically develop their capability to mediate spatial conflicts and facilitate multistakeholder dialogue. With the Southern Rift Association of Landowners in Kenya, CDI used the framework to develop a monitoring system for place-specific management plans and adapted governance structures within their territory. With the Institute for Integrated Mountain Development in the Himalayas, CDI used the framework to develop regional colleges' curricula to educate a new generation of landscape professionals, qualified to design and implement landscape programs on the ground.

8. CONCLUSION: LANDSCAPE AS A BOUNDARY CONCEPT

The review so far shows that landscape approaches have emerged and developed very differently in the various sciences: from landscape services in ecology to integrated development and conservation approaches in development economics, and from sense of place in sociology to politics of scale in political sciences. However, these landscape approaches still show many common grounds. In **Table 1**, we present the key characteristics on which they converge. At the same time, attempts to find universal, converging characteristics of landscape approaches invariably lead to identifying opposite elements in other approaches. Therefore, we also add contestations in **Table 1**. These insights are based on all sections in the above and the literatures referenced in them. In a way, the table and the paragraph below summarize the above sections of this review.

Table 1 Convergence and contestation in landscape approaches

Landscape approaches	
Convergence	**Contestation**
Place based	Local trap
Multifunctionality	Competing claims
Sustainability	Trade-offs
Cogovernance	Managerialism
Engaged society	Exclusion
Collaborative planning	Conflict
Interdisciplinary work	Incompatible epistemologies

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Various landscape approaches have in common their focus on a particular place—they are place based. However, other approaches emphasize that a focus on place may easily lead to a so-called local trap, suggesting that scholars and practitioners might become trapped in a landscape-like tunnel view, thus ignoring other spatial scales and causes and effects of land-use change that go straight through them. Multifunctionality is another key term from landscape approaches, but there are also scholars and practitioners who emphasize the presence of competing claims. Not all functions are easy to align—think of production versus conservation—and some are more dominant than others. This debate is related to sustainability and its win-win discourse. Too much emphasis on the latter might cause one to overlook the trade-offs so often implied in the simultaneous implementation of the three sustainability pillars (people, profit, and planet) in programs and projects. Next, a case is made for cogovernance in many landscape approaches, in which public and private actors are supposed to govern landscape issues jointly. However, others criticize this trend because of its managerial tendencies, ignoring topics such as power inequalities, opposing interests and different norms, values, and identities among stakeholders. In a similar vein, pleas for an engaged society in support of a landscape simultaneously give rise to concerns about exclusionary processes, questioning who is involved and who is not when defining what the conserved landscape should represent. Engagement is not automatically given to all of us (think of differences in nurture, education, oral skills, available time, wealth, etc.), so a strong belief in "the" engaged society might lead to ignoring the exclusionary practices that are an inherent part of it. Similar criticism can be voiced to collaborative planning, a strong ideal in many landscape approaches. Collaboration sounds of course very nice, but it can become a disciplinary practice that buries conflicts among participants that actually need to be tabled to have an open, fair, and democratic debate. Finally, and particularly relevant for this review, are the interdisciplinary ambitions of all landscape approaches, with sustainability science as the most integrated variant. Critics nonetheless claim that the many disciplines are often built on incompatible epistemologies—social sciences versus natural sciences, objectivism versus constructionism, naturalism versus interpretive theory, realism versus critical realism, causality versus contingency, quantitative methodology versus qualitative methodology, etc. These differences cannot be overcome in one overarching approach, for example a social-ecological system framework. Again, such differences should be tabled and reflected on by landscape scholars and practitioners.

How do we go about these convergences and contestations? We believe this diversity is a good thing. It fuels debate and reflection, thus enhancing our insights into landscapes from various perspectives. The best way to portray this situation is, in our view, to consider the notion of landscape a boundary concept (75, 159). This term, borrowed from science and technology studies, among others, discusses the need, possibilities, and challenges of interdisciplinary and

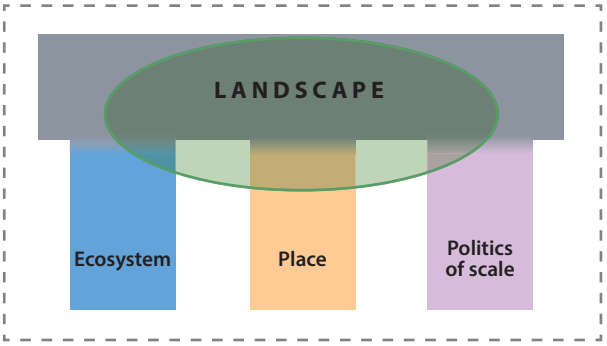

Figure 3

Landscape as boundary concept. Figure adapted with permission from Reference 21, figure 5.

transdisciplinary work (160). Boundary objects are material entities, such as a plant or an animal, but open to various interpretations and subject to reflection, so that their meaning may change over time. However, we use the notion of boundary concepts. These are similar in that both create discursive spaces for (re)interpretation, (re)negotiation, and consensus formation among different domains, but unlike boundary objects (a building, an animal, a body, an organ, etc.), they are immaterial (words, concepts, narratives, poems, etc.) (75). Building on the definition of a boundary object in the above, a boundary concept needs two properties: On one hand, it needs to be adaptable enough to satisfy specific disciplinary needs; on the other hand, it needs to be robust enough to maintain a basic level of conceptual coherence across scientific disciplines (158). Although, for example, place is mostly associated with social sciences and ecosystem with the natural sciences, the landscape concept addresses both. Hence, we propose that landscape could serve as a boundary concept for various disciplines that deal with the human environment and its challenges, offering a common ground to both scientists and practitioners with different backgrounds, values, norms, ideas, and interests to meaningfully engage with landscape approaches (see **Figure 3**).

The figure combines the T-shaped interdisciplinary approach (see **Figure 1**) with boundary work. The pillars (ecosystem, place, politics of scale, etc.) represent various disciplinary concepts, and the horizontal beam demonstrates the boundary concept (landscape). In this framework, landscape is not considered a fixed and well-defined notion. Instead, it offers a discursive space to push for scholarly and practical cooperation, maybe even integration, but how such will materialize in practice depends on each new project or publication, and the (T-shaped?) scholars and practitioners involved in them. Hence, the landscape approach does not exist, but landscape approaches in plural manifestations and as discursive spaces do.

DISCLOSURE STATEMENT

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