



PBL Netherlands Environmental  
Assessment Agency

# SEIZING THE LANDSCAPE OPPORTUNITY TO CATALYSE TRANSFORMATIVE BIODIVERSITY GOVERNANCE

*A contribution to the CBD post-2020  
Global Biodiversity Framework*

Policy Brief

PBL



# Seizing the landscape opportunity to catalyse transformative biodiversity governance

## A contribution to the CBD post-2020 Global Biodiversity Framework

Johan Meijer, Cora van Oosten, Suneetha M. Subramanian,  
Evonne Yiu, and Marcel Kok

In collaboration with:



UNITED NATIONS  
UNIVERSITY

**UNU-IAS**

Institute for the Advanced Study  
of Sustainability

**Seizing the landscape opportunity to catalyse transformative biodiversity governance:  
A contribution to the CBD post-2020 Global Biodiversity Framework**

© PBL Netherlands Environmental Assessment Agency

The Hague, 2021

PBL publication number: 4441

**Authors**

Johan Meijer and Marcel Kok (PBL), Cora van Oosten (WCDI), Suneetha M. Subramanian and Evonne Yiu (UNU-IAS)

**Corresponding authors**

Johan.Meijer@pbl.nl and Marcel.Kok@pbl.nl

**Supervisor**

Bram Bregman

**Acknowledgements**

Our thanks go to the organisers and participants who contributed to the Kumamoto Expert Thematic Workshop and African Landscapes Dialogue Thematic Group on 'Biodiversity, Wildlife and Integrated Landscape Management', which both provided valuable insights for this report. We thank John Ajjugo (HoAREC&N), Maiko Nishi (UNU-IAS), Nina Bhola (UNEP-WCMC), Sophie Persey (LandScale-Rainforest Alliance) and the participants who joined us in the GLF #Biodiversity session, in October 2020, for sharing their reflections, which helped to improve our messages. We thank Kate Negacz (IVM) for providing data on international cooperatives. We are grateful to the Satoyama initiative, the Landscapes for People Food and Nature initiative, the Landscape Conservation Cooperatives and Maria Garcia-Martin (WSL) for making available spatial information on landscape initiatives, programs and cooperatives. We also greatly appreciate the feedback on the draft report, which was provided by Oliver Hillel (CBD), Makiko Yanagiya, William Dunbar and Maiko Nishi (UNU-IAS), John Ajjugo (HoAREC&N), Omer van Renterghem (Dutch Ministry of Foreign Affairs), Rob Hendriks and Hayo Haanstra (Dutch Ministry of Agriculture, Nature and Food Quality), Henk Simons (IUCN-NL), Alfred Oteng-Yeboah (IPSI/University of Ghana) and Like Bijlsma and Annelies Sewell (PBL), which helped us to improve the report.

**Production coordination**

PBL Publishers

This publication can be downloaded from: [www.pbl.nl/en](http://www.pbl.nl/en). Parts of this publication may be reproduced, providing the source is stated, in the form: Meijer, J.R., van Oosten, C., Subramanian, S.M., Yiu, E. and Kok, M.T.J. (2021), *Seizing the landscape opportunity to catalyse transformative biodiversity governance: A contribution to the CBD post-2020 Global Biodiversity Framework*, PBL Netherlands Environmental Assessment Agency, The Hague.

**PBL Netherlands Environmental Assessment Agency** is the national institute for strategic policy analysis in the fields of the environment, nature and spatial planning. We contribute to improving the quality of political and administrative decision-making by conducting outlook studies, analyses and evaluations in which an integrated approach is considered paramount. Policy relevance is the prime concern in all of our studies. We conduct solicited and unsolicited research that is both independent and scientifically sound.

**Wageningen Centre for Development Innovation**

With approximately 30 locations, 5,000 members of staff and 10,000 students, Wageningen University & Research is a world leader in its domain. An integral way of working, and cooperation between the exact sciences and the technological and social disciplines are key to its approach. Wageningen Centre for Development Innovation is one of Wageningen University and Research business units which supports value creation by strengthening capacities for sustainable development. As the international expertise and capacity-building institute of Wageningen University & Research we bring knowledge into action, with the aim to explore the potential of nature to improve the quality of life.

**The United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)** is a leading research and teaching institute based in Tokyo, Japan. Its mission is to advance efforts towards a more sustainable future, through policy-relevant research and capacity development focused on sustainability and its social, economic and environmental dimensions. UNU-IAS serves the international community, making valuable and innovative contributions to high-level policymaking and debates within the UN system. The activities of the institute are in three thematic areas: sustainable societies, natural capital and biodiversity, and global change and resilience. UNU-IAS also serves as the Secretariat of the International Partnership for the Satoyama Initiative (IPSI).



# Contents

<b>Summary</b>	<b>9</b>
<b>1 Introduction</b>	<b>12</b>
<b>2 The landscape opportunity for the CBD 2050 vision</b>	<b>16</b>
2.1 Conserving nature as part of the SDG agenda	16
2.2 Enabling a whole-of-society approach	18
2.3 Shaping transformative action and partnerships	21
2.4 Conserving biodiversity and nature-positive implementation of nature-based solutions	23
<b>3 Strengthening landscape governance initiatives</b>	<b>26</b>
3.1 Policy-related challenges that hamper effective landscape governance	26
3.2 Landscapes and the national biodiversity strategies and action plans	28
3.3 Multi-level networks for stronger positioning of landscapes	29
<b>4 The way forward: embedding a transformative landscape perspective in the Global Biodiversity Framework</b>	<b>34</b>
4.1 Including a transformative landscape perspective	34
4.2 Triggering landscape action	35
4.3 Building on landscape ambition	37
<b>References</b>	<b>40</b>





# Summary

## ***Need for transformative change to stop further biodiversity loss and restore nature***

Nature and biodiversity are being lost worldwide, and the capacity of ecosystems to provide vital contributions to people is deteriorating. Most of the Aichi Biodiversity Targets for 2020 under the Convention on Biological Diversity (CBD) have not been achieved, and, if the trends of the last decades persist, biodiversity will continue to decline. Policies, commitments and actions aimed at halting further loss immediately and restoring biodiversity and ecosystems are needed more than ever, in order to still be able to achieve the agreed 2050 Vision of the CBD of living in harmony with nature.

## ***The new CBD post-2020 Global Biodiversity Framework requires a theory of change that supports interventions to realise transformative outcomes***

The IPBES Global Assessment (GA) and Global Biodiversity Outlook 5 reports made a clear call to move away from business-as-usual practices in order to alleviate biodiversity loss and declines in human well-being. They emphasised the need to bring about transformative change to ensure that ‘nature can still be conserved, restored and used sustainably’ along with meeting other global goals. This implies changes to individual and collective actions at various levels of governance, from local to global scale, that move away from viewing nature as simply a factor of production to considering it an integral part of a socio-ecological system. This would require a reorientation of economic thinking, social mores and political compulsions towards more participatory, inclusive, integrated systemic approaches that account for the priorities and values of multiple stakeholders in various contexts.

## ***A key for unlocking transformative change is provided by landscape approaches***

As negotiations continue on biodiversity action for the next decade, now is the critical moment to seize the opportunity for embedding a landscape perspective throughout the post-2020 Global Biodiversity Framework (GBF) that is currently being developed under the CBD. With the core principles of being participatory, inclusive and multifunctional, landscape approaches create the opportunity to involve the whole of society in planning processes at subnational levels. Landscape approaches provide an integrative perspective to facilitate transformative change by embedding conservation and sustainable use of biodiversity as a prerequisite for wellbeing and development in all sectors of society, including agricultural production, consumption and health.

## ***Creating co-benefits between SDGs, climate, restoration and biodiversity ambitions***

The need for more integrated and inclusive management of natural resources in the post-2020 GBF, also resonates within the context the Sustainable Development Goals, the UN Decade on Ecosystem Restoration and ambitions to mitigate and adapt to climate change. Nature is considered part of the solution that needs to be designed and implemented to sustainably manage and address various interlinked societal and sectoral

challenges. This has brought an increasing global interest in restoration and nature-based solutions (NBS). This makes a landscape perspective even more crucial to support the effective and equitable realisation of much-needed co-benefits. The focus on realising synergies by doing the right thing in the right place can prevent potential trade-offs that could arise if climate mitigation, adaptation, restoration or other sectoral policies would encourage NBS with low biodiversity value. Providing coherency and equity in the implementation of NBS and restoration activities is essential in building resilient multifunctional landscapes that embrace living in harmony with nature.

***Many landscape governance arrangements and initiatives are leading the way; the CBD can benefit***

The many emerging landscape initiatives and arrangements provide tangible examples of how multiple landscape values can be combined, by creating more spatial and sectoral synergies and by guiding the process of adequately dealing with delicate trade-offs. Many landscape initiatives are connected to large international networks and platforms facilitating a better connection between global commitment and local action, sharing of knowledge and experiences for spatially explicit integration of sectoral policies, and recognizing important urban–rural linkages in landscapes. International biodiversity policies and the CBD can benefit from these efforts. These networks could also increase attention for managing and operating in multi-level and multi-actor governance processes that are needed to align actor objectives at various levels of governance.

***The way forward for the Global Biodiversity Framework; embedding a landscape perspective***

There are several opportunities for embedding a landscape perspective in the post-2020 Global Biodiversity Framework (GBF). In the CBD, spatial planning and landscape governance are so far mainly seen as a means of implementation and part of a ‘whole of government’ approach. Due to this lack of attention, the post-2020 GBF misses out on the potential of bottom-up landscape governance and initiatives to support a ‘whole of society’ approach and to develop pathways to move to more bottom-up and participatory spatial planning and more inclusive ways towards achieving biodiversity goals. Transforming to a more landscape-inclusive approach to spatial planning would allow for better alignment with locally crafted initiatives and arrangements within landscapes. A new round of NBSAPs should encourage countries to build on these initiatives and arrangements as a step forward, to multiply these initiatives and contribute to the realisation of the ambitions set in the GBF.

***A Global Biodiversity Framework that triggers landscape action***

A key element that is clearly mentioned in the theory of change of the GBF is that the implementation will be done in partnership with many organisations, on global, national and local levels, and that it will take a rights-based approach and recognition of the principle of intergenerational equity. Effective landscape governance does entail the participation and cooperation of stakeholders at the local level of policy implementation. This includes indigenous peoples and local communities and directly speaks to the GBF targets of ensuring equity, protection of associated traditional knowledge and rights over resources as well as to the GBF implementation support mechanisms and enabling

conditions. The GBF could contribute to empowering local communities in the management of their common affairs. To make that happen, the GBF would need to recognise that also the realisation of many of the other targets will rely largely on landscape-level action and better spatial planning.

***Building on landscape ambition as part of the Action Agenda for Nature and People***

Integrating a landscape perspective in the theory of change that underpins the GBF, its goals and targets, means of implementation and review mechanisms, will help to raise the level of ambition of landscape-level action for nature and people. To facilitate the implementation of landscape approaches, identify their challenges, organise stakeholder dialogues, and promote the exchange of knowledge and experiences within and between landscapes, a number of umbrella organisations with global outreach have become important actors in increasing the momentum for landscape thinking and acting. Most of these initiatives have only recently started to engage with the CBD process, but the implementation of the GBF could benefit greatly from their work. The Action Agenda for Nature and People would provide an opportunity for doing so, as it provides a platform for non-state and subnational actors to make voluntary commitments that contribute to the CBD objectives and the post-2020 GBF. Stronger involvement, recognition and commitments by landscape initiatives and their network organisations would add value to this process and contribute to a feasible and impactful way forward.

# 1 Introduction

The negotiations towards the post-2020 Global Biodiversity Framework (GBF) have resumed and, if circumstances allow, will result in an agreement at CBD COP 15 in Kunming, China by October 2021. The post-2020 GBF will be the new global framework for biodiversity conservation for the coming decade. The negotiations so far were marked by the global COVID-19 pandemic, which urgently brought to the world's attention the interrelations between human health, globalisation and the state of the world's biodiversity.

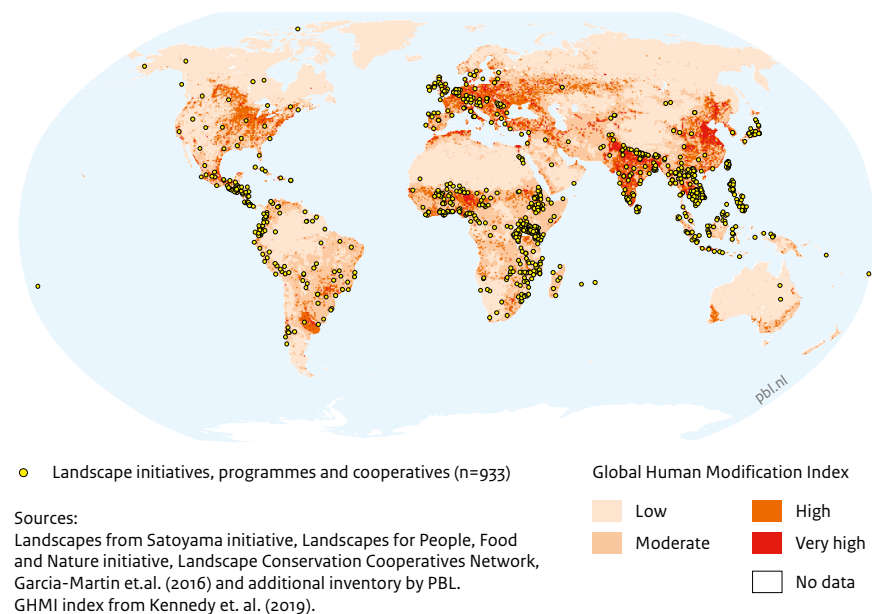
The Global Assessment Report (IPBES, 2019a) of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the more recently published Global Biodiversity Outlook 5 (CBD, 2020b) analysed progress on the strategic biodiversity framework 2011–2020 and concluded that none of the 20 Aichi Biodiversity Targets were fully met by the end of 2020. With limited progress on few indicators, this outcome paints a bleak picture of the future of the world's nature, that in turn also threatens the achievement of the Sustainable Development Goals and undermines efforts to address climate change. The related Local Biodiversity Outlooks 2 (FPP, 2020), that focuses on contributions of on-the-ground initiatives to global goals for sustainability and nature, clearly shows that also the ongoing disregard of the vital contributions of indigenous peoples and local communities (IPLCs) to biodiversity conservation and sustainable use constitutes a major missed opportunity for the CBD and the United Nations 2011–2020 Decade on Biodiversity, with fundamental lessons remaining to be learnt about securing the future of nature and cultures.

Commitments, policies and actions aimed at halting further loss and restoring biodiversity and ecosystems are needed more than ever, in order to still be able to achieve the agreed 2050 Vision of the CBD of living in harmony with nature. Recent scenario studies stress that in order to bend the curve for biodiversity in the near future, integrated approaches with high ambitions are essential in order to create the required co-benefits for the sustainable production of sufficient and healthy food, the mitigation of climate change and the conservation of nature (Diaz et al., 2020; Kok et al., in review; Leclère et al., 2020). To put nature back on a path of recovery, IPBES called for transformative change to move away from the business-as-usual ways of doing things today. This means a fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values (IPBES, 2019a, b). This call from science is now taken up by the CBD and the post-2020 GBF is intended to become a transformative framework for nature and people.

One way to foster transformative change is by fundamentally changing the way in which the governance of spatial development and planning processes around our natural resources is currently organised, especially in mixed landscapes, where people live, agricultural production and nature conservation functions need to be combined, and where urban–rural linkages influence land-use change. Instead of continuing conventional top-down and

Figure 1.1

Landscape initiatives in relation to human modified areas as of 2021



*Global overview of landscape initiatives connected to various landscape networks promoting integrated approaches. Many initiatives focus on landscapes with moderate to higher degrees of human modification.*

sector-oriented planning, current sustainability challenges require context-sensitive and iterative spatial planning and landscape governance, where multiple objectives are pursued and balanced, and all actors in society are involved and able to participate. This implies a turn to aligning interests, synchronising actions, improving policy coherence and advancing institutional development in order to support conservation, fair and equitable access and benefit sharing, and sustainable use of natural resources at multiple spatial levels (ALD, 2020; IPBES, 2019a; Reed et al., 2020b; UN-Habitat, 2019; UNU-IAS and UT-IR3S, 2018).

Given the multi-dimensional and spatially diverse character of biodiversity and ecosystem services, and the essential need to create synergies between global policies on food and nutrition security, climate change and health, operationalising such a desired transformative change seems very appropriate on a regional or landscape scale. This is where national level ambitions and policies meet with local level initiatives and actions. Over the last decade, many landscape initiatives, often driven by non-state and subnational actors, have emerged (Figure 1.1). These initiatives commonly apply an integrative perspective and promote the sustainable use of biodiversity in all sectors of society, including agricultural production, consumption and health.

The CBD bases itself on the ecosystem approach that constitutes an overall framework for supporting decisions in policy-making and planning relating to the goals of the Convention, to be implemented and organised in an integrated and inclusive way at the level of ecosystems. The landscape approach broadens this perspective by including the socio-ecological context that could cover multiple ecosystems and specifically focuses on the human perspective to also influence various indirect drivers of biodiversity loss. Importantly, the landscape approach aims to integrate the multiple values in a landscape (natural, economic, cultural, spiritual, historical, heritage-related, nutritional and others), and promote multi-stakeholder participation in managing the environment and conserving biodiversity. Landscape initiatives promote finding ways of integrating across sectorial policy silos, including agriculture, forestry, fisheries, tourism, health, energy and mining, infrastructure and urbanisation, manufacturing and processing sectors. Many of them are also well embedded in international networks that offer opportunities for learning and influencing national policy making through concerted international action. National Biodiversity Strategies and Action Plans (NBSAPs), which is considered the main national level instrument within the CBD, could also build on this momentum to expand their reach and effectiveness by applying landscape approaches. Currently, in many countries, NBSAPs are only limitedly making reference to integrated landscape approaches, in this way missing out on the opportunities they provide for mainstreaming of biodiversity objectives as an essential part of a more integrated and sustainable development pathway.

The global overview of landscape initiatives (Figure 1.1) provides an indication of on-the-ground action to achieve global sustainability targets, including the conservation and sustainable use of biodiversity, through landscape initiatives. The Action Agenda for Nature and People, that was initiated at CBD COP 14 in 2018 in Sharm El-Sheikh, Egypt, is aimed to encourage non-state and subnational actors to make voluntary commitments that contribute to the CBD objectives and the post-2020 Global Biodiversity Framework (GBF). Stronger involvement, recognition and commitment by landscape initiatives and their representative international network organizations would add value to the process, and contribute to a feasible and impactful way forward (Kok et al., 2019). While the sustainable development agenda of subnational governments and cities is gaining momentum and has also found its place in the CBD and the negotiations of the GBF via the Edinburgh process, actions of landscape level actors are less recognised, as these fall outside the traditional levels of government and operate at the combined area of interest addressed by ecosystem approaches, territorial/jurisdictional approaches and bottom-up societal initiatives.

### ***Objective of this report***

Focussing on the potential of non-state and subnational action for the design and implementation of the post-2020 GBF, we will focus in this report on 2 main questions:

- What can landscape governance arrangements, seen as the living examples of landscape approaches, contribute to implementing the GBF, recognising their role as catalysts in bringing together multiple actors and facilitating a transformation towards a whole of society approach in the GBF?

- How can the post-2020 GBF build upon landscape governance arrangements and their international network organisations to further harness the potential of landscape approaches for nature and people?

For this we explored recent literature and also built on the outcomes of 3 recent meetings: (1) the *Expert Thematic Workshop on Landscape Approaches for the Post-2020 Global Biodiversity Framework* held in September 2019 in Kumamoto, Japan (UNU-IAS, 2019) and (2) the *African Landscapes Dialogue* which convened in November 2019 in Arusha, Tanzania (ALD, 2020). Feedback on the key messages of this policy brief was collected via an (3) online session at the Global Landscapes Forum on Biodiversity which took place in October 2020 (GLE, 2021).

The first draft of the GBF document (CBD, 2021b) is built around a theory of change that promotes a whole-of-government and whole-of-society approach, covering all levels of government and including all actors in society. It contains many goals and targets where landscape approaches and initiatives could contribute to the envisioned transformative change. These include ambitions on area-based protection, comprehensive and landscape scale spatial planning, sustainable use and managing nature's contributions to people, as well as inclusive decision-making. We question, however, whether the CBD at this point has fully embedded landscape approaches and spatial planning perspectives, and whether it sufficiently recognises the potential of current landscape initiatives and global networks connecting them worldwide to contribute to the implementation of the post-2020 GBF as part of its whole-of-government approach. Following this, it appears that the first-draft GBF document still mainly reflects a business-as-usual approach, instead of enabling new approaches to tackle the global negative trends and complex challenges outlined before. The CBD documents remain vague as to how this should be done, and what international and national action is needed. Suggestions to seize the landscape opportunity are provided in the following sections of this report. We focus on the planning and governance arrangements in landscapes that integrate land, freshwater and coastal area objectives, and as such are also often referred to as landscapes and seascapes.

Chapter 2 outlines how the CBD ambition to realise the 2050 Vision could build on already ongoing integrated landscape governance and management initiatives around the world, applying landscape approach principles. Subsequently, Chapter 3 focuses on the challenges that currently hamper the effectiveness of landscape governance arrangements and how they could be strengthened, including the roles of the non-state and subnational actors involved. Finally, Chapter 4 highlights how the GBF could adopt a landscape perspective to support shaping the envisioned transformative change that is required to achieve the 2050 vision of people living in harmony with nature.

# 2 The landscape opportunity for the CBD 2050 vision

This chapter discusses how landscape governance and integrated landscape initiatives can contribute to the multiple objectives of the CBD (i.e., conservation and sustainable use of nature, and fair sharing of benefits). It also shows how landscape governance arrangements align with the Global Biodiversity Framework in the ambition to involve the whole of society and shape transformative action in order to realise the CBD 2050 vision of people living in harmony with nature.

## 2.1 Conserving nature as part of the SDG agenda

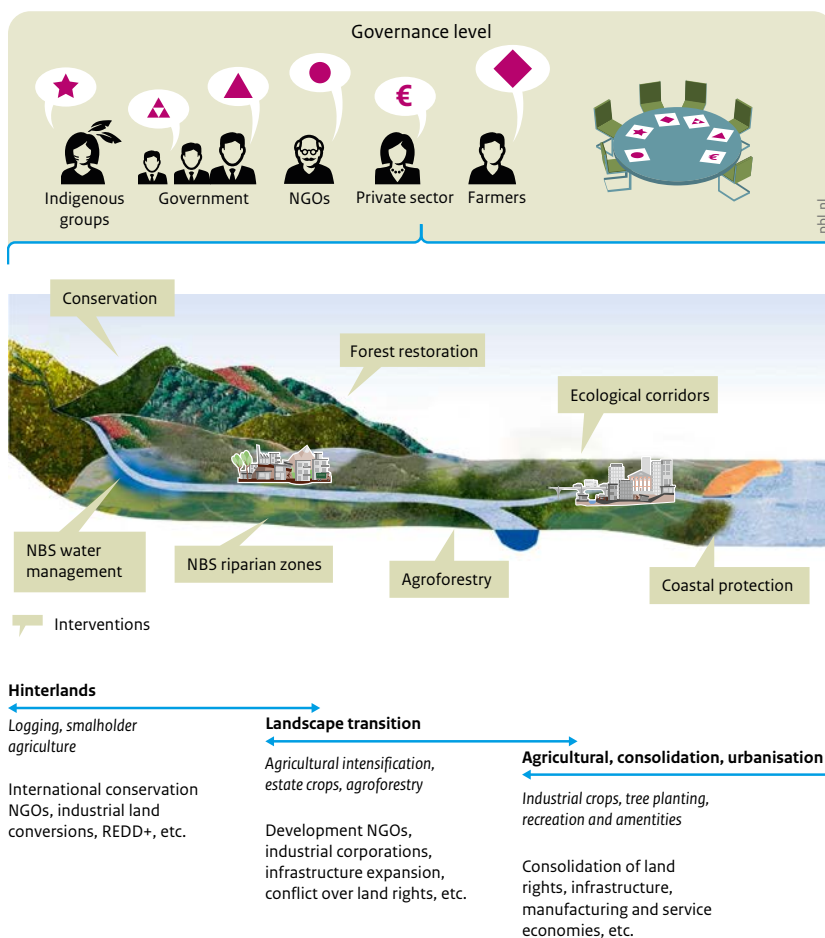
Given that the conversion of natural land into agricultural land is a leading cause of biodiversity loss, improving sustainable natural resource use in production sectors and effective conservation of biodiversity remain essential. Especially, when it is increasingly realised that nature is part of the solution when it comes to sustainably managing various interlinked societal challenges. These challenges come together in landscapes and seascapes in a context in which there is an increasing competition for available space (IPBES, 2019a). As such, conventional policy approaches and practices that assume particular lands have one priority objective, such as farming or forestry, and that this objective is a trade-off with other objectives, are no longer viable in much of the world (Gassner et al., 2020; Thaxton et al., 2015). The need for more integrated and inclusive management of land and water resources has also resonated within the context of the main global policy agenda, focusing on involving the whole of society; the 17 Sustainable Development Goals (SDGs) and 169 targets provide a comprehensive, integrated and inseparable framework for countries to plan and achieve an inclusive and sustainable development vision by 2030. This coincides with the timeframe of the emerging post-2020 Global Biodiversity Framework and the UN Decade on Ecosystem Restoration.

In line with this, the recent 5th Global Biodiversity Outlook (CBD, 2020b) stated that the solutions to bend the curve for biodiversity need to incorporate an integrated approach that simultaneously addresses the conservation of the planet's genetic diversity, species and ecosystems, the capacity of nature to deliver material benefits to human societies, and the less tangible but highly valued connections with nature that help to define human identities, cultures and beliefs.



Figure 2.1

**The landscape approach integrates multiple values and objectives in landscapes and seascapes**



Source: PBL

*Integrated approaches to landscapes and seascapes can be applied to a range of situations, include various landscape actors, combine land and water objectives, and provide the perspective to successfully implement nature-based solutions and restoration activities (adapted from Sayer et al., 2013; Appleton, 2018 and PBL, 2018).*

The specific actions of individual countries that are being implemented to achieve the SDGs and existing and forthcoming goals and commitments on biodiversity and ecosystem conservation, restoration and sustainable use, converge and potentially conflict at subnational levels. It is at the landscape scale, as illustrated in Figure 2.1, that stakeholders should be more involved in planning and decision-making regarding the environment in which they live and work, and be able to more clearly understand the context and impact of specific actions (Albrechts et al., 2020; Kindornay et al., 2019; Thaxton et al., 2015).

Landscape approaches do not only refer to land-based activities or objectives, but also aim to cover freshwater, coastal and marine environments. The frequently applied ‘ridge-to-reef’ approach is a typical landscape approach that integrates activities relating to terrestrial, freshwater, coastal and marine ecosystems. It builds actor and institution linkages that demonstrate the interconnected terrestrial, coastal and marine environments from upstream to downstream. In doing so, this approach comprehensively addresses all drivers and actors within the landscape, including those affecting the so-called seascape, without being compromised by sectoral or jurisdictional boundaries. This means that landscape approaches address multiple SDGs, including SDG 15 which refers to life on land, but they could also cover SDG 14 which is about the conservation and sustainable use of oceans, seas and marine resources. As such, landscape approaches are well-placed to enable effective implementation of the CBD 2050 Vision along with other global goals covered by the SDGs. As they all place a high value on human well-being as well as on biodiversity conservation, they are therefore often also more attractive to stakeholders outside the typical conservation circles (UNU-IAS, 2019).

## 2.2 Enabling a whole-of-society approach

Over the past decades, individual citizens, businesses, governmental and non-governmental organisations and other interest groups around the world have become more involved in landscape governance, starting their own initiatives aimed at developing effective strategies to conserve local biodiversity (Arts, 2017; Kozar, 2019; Reed et al., 2020a and 2020b). These initiatives are reflected in numerous projects, networks, platforms and coalitions. They represent citizens, young people, farmers, cooperatives, landowners, companies and other landscape actors taking on active and often voluntary roles in environmental stewardship. While struggling with harsh realities and facing various challenges, many of these initiatives have also been able to initiate the development of innovative and participatory approaches to land-use planning, new types of locally managed conservancies and new ways to incorporate biodiversity benefits in livelihood strategies (UNU-IAS and IGES, 2019). They also inspired the transformation of agricultural systems for biodiversity benefits and financial innovations that encourage the improvement of economic and development planning by including biodiversity information and natural capital accounts in decision-making (ALD, 2019; Meijer et al., 2020).

Overall, such initiatives are referred to as ‘landscape governance arrangements’ — the practical examples of landscape approaches — and seen as place-based multi-stakeholder initiatives of dialogue and decision-making on sustainable land use (Carmenta et al., 2020; Estrada-Carmona et al., 2014; Milder et al., 2014; van Oosten et al., 2018). Landscape governance arrangements address sectoral thinking and seek to advance landscape performance by reconciling multiple objectives (e.g., livelihoods, agricultural production and conservation) and build on collaboration between various sectors and actor groups, at multiple levels. These initiatives also often involve indigenous people and local

communities (IPLCs) (Ayala-Orozco et al., 2018; Larsson et al., 2020; Kusters et al., 2020; Prager, 2015; Scherr et al., 2013).

#### From theory to practice #1: Empowering communities for natural resource management; the case of Community Resource Management Areas (CREMA) in Western Ghana.

The increasing pressure on resources and the resulting land degradation called for urgent action to develop a more efficient management system that would sustain the integrity of the natural resources and serve the needs of all stakeholders. Community Resource Management Areas (CREMAs) were established by the Government of Ghana to allow for local participation in natural resource management and to address multiple demands on ecosystem goods and services. Building knowledge about the needs of the various stakeholders, thus, was critical in designing a more robust management system to enhance the health of the socio-ecological landscape and reduce biodiversity loss. CREMA interventions focus on uniting communities that share common resources and take affirmative action to jointly manage those resources. An expected outcome of the CREMA initiative has been the willingness of communities to set aside parcels of undisturbed community-owned forest to be sustainably managed. This will enhance the preservation of sacred groves and other cultural attractions, as well as regulate agricultural production within the landscape. The diverse but critical services delivered by CREMAs to the vast majority of those communities justify the continued protection through a community-based arrangement.

Source: Empowering communities for natural resource management: [the case of Community Resource Management Areas \(CREMA\) in Western Ghana](#)

The core principles of landscape approaches being bottom-up, participatory, inclusive and multifunctional, create the opportunity to involve the ‘whole of society’ in spatial planning processes at subnational levels. These same principles also contribute to strengthening the proposed theory of change underlying the post-2020 Global Biodiversity Framework, as it assumes that, for realising the 2050 Vision, a similar strong ‘whole-of-society’ engagement is needed. This calls for the involvement and transformative action by all societal actors, including national and subnational governments, civil society and the corporate world. It also implies a full recognition of gender equality, women’s empowerment and youth engagement as well as the full and effective participation of indigenous peoples and local communities (CBD, 2020a). The United Nations’ 2030 Agenda for Sustainable Development considers whole-of-society governance an instrument to urge national governments to establish mechanisms for multi-stakeholder engagement within their jurisdictions and to assure optimal participation of all societal actors in setting development targets and measuring progress.

Within the CBD post-2020 process, this recommendation for multi-stakeholder engagement is also made by the recent Edinburgh Declaration. This declaration is the outcome of a consultation process of subnational governments, cities and other local authorities to support the development of the Global Biodiversity Framework and promotes a whole-of-government approach that aims to connect the different levels of government (Edinburgh Declaration, 2020). Given its jurisdictional focus, the declaration lacks a landscape and seascape governance and planning perspective, but does highlight the vital role of indigenous people and local communities, women and youth, non-governmental organisations and wider society in decision-making and in taking action at subnational, city and other local levels. The declaration advocates that there should be a fully collaborative approach to ensure active participation of these groups.

#### From theory to practice #2: Building multi-stakeholder cross-sectoral partnerships for the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' in Eastern Rural Taiwan

To mediate conflicts over natural resources and to balance the interests of various stakeholders, the 'Forest-River-Village-Sea Ecoagriculture Initiative' was launched in October 2016. Two different ethnic groups of indigenous settlements and their farmland are located in the same watershed surrounded by forests. In the past, different government sectors worked separately on different community affairs for the two different settlements. Resource conflicts over water usage, hunting and fishing rights happened from time to time between the two settlements.

The collaborative mechanism for promoting the initiative involved setting up a task force composed of 6 core members as well as a multi-stakeholder platform (MSP) comprised of about 20 stakeholders including local community organisations, central and local government organisations, a local school, academics, NGOs, non-profit organisations and green enterprises. The MSP manages planning, implementation and monitoring of new goals as well as an action plan of the initiative that includes area-based conservation measures. The plan has been implemented collectively and is aimed at enhancing ecosystem services and indigenous cultural values for both communities. The vision is to help these communities to live in harmony with nature through revitalisation of the landscape and seascape.

Source: [Building up Multi-stakeholder Cross-sector Partnerships for the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' in Eastern Rural Taiwan](#)

Under the Action Agenda for Nature and People, non-state and subnational actors, involved in landscape initiatives, could be encouraged to make voluntary commitments that contribute to the CBD objectives and the post-2020 Global Biodiversity Framework.

## 2.3 Shaping transformative action and partnerships

The IPBES Global Assessment states that landscape approaches offer the opportunity to move away from business-as-usual practices in order to halt both biodiversity loss and the decline in human well-being (IPBES, 2019a). The assessment emphasises that the effective conservation, restoration and sustainable use of nature also requires the realisation of other global goals, such as food security and human health, equitable access to resources and benefits to politically and economically marginalised communities, and recognition of and respect for the knowledge, innovations, and practices, institutions and values of different indigenous peoples and local communities.

In this context, transformative change is a process aimed at bringing about a ‘fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values’ (IPBES, 2019a). This implies changes to individual and collective action at various levels of governance, from the local to global, that move away from viewing nature as simply a factor of production to an integral part of a socio-ecological system. This would require a re-orientation of economic thinking, social mores and political compulsions towards more participatory, inclusive, integrated systemic approaches that account for the priorities of multiple stakeholders in various contexts. To accelerate the desired sustainability transitions and guide them more strategically, actors need to build and empower transformative coalitions (Bulkeley et al., 2020; Loorbach, 2019).

It is at landscape level where ecological, social and economic objectives meet the spatial realities of river systems, forested areas, drylands, coastal zones and agricultural and city regions (Figure 2.1). It is also the level at which most impacting land-use decisions and trade-offs are made, conflicting policy objectives become apparent, and where diverging stakeholder objectives are to be combined to form balanced outcomes of sustained economic and social development and biodiversity conservation (Albrechts et al., 2020; Djenontin et al., 2020; Hedden-Dunkhorst et al., 2019; Van der Horn and Meijer, 2015). Common sense, therefore, dictates that for example the current dialogue on the transition towards nature-positive food systems, organised under the UN Food Systems Summit process, and bringing together many different actors, consider the landscape as the unit for planning and action to realise this transition (UN-FSS, 2021).

### From theory to practice #3: Building partnerships in the Litoral Norte, Honduras

On the Caribbean north coast of Honduras, the NGO Solidaridad is implementing the PASOS programme (Sustainable Landscapes in Honduras), which is an integrated landscape partnership built on an already functioning partnership of actors in the palm oil sector. This new initiative brings together a broader range of landscape stakeholders including not only those involved in palm oil production, but also conservation NGOs, cocoa and ecotourism companies, indigenous peoples' and community-based organisations, farmer organisations and cooperatives, municipal authorities, research institutes and universities and community water associations. Driven by shifting values and the need to tackle the negative social, economic and environmental impacts from large-scale palm oil production on the broader landscape, the partnership focuses on developing alternative sustainable business models that are in line with the key ambitions of the partnership, which include improving livelihoods and food security, improving the sustainable production of palm oil, increasing the productivity and sustainability of mixed cocoa/agroforestry activities, conservation of protected areas and corridors, sustainable management of watersheds, and making the landscape more resilient to extreme weather events.

Source: PBL, [Spatial modelling of participatory landscape scenarios](#)

The landscape scale also comes closest to those spatial identities and cultures of citizens who, fully or partly, are already living in harmony with nature, predominantly indigenous peoples and local communities. It is their 'place attachment', local knowledge and, often, traditional and informal rights that provide a basis for locally grounded stewardship, which may also be key in achieving the transformative change envisaged in the CBD's 2050 Vision and enhancing its social bases for living in harmony with nature (Bieling et al., 2020; Fagerholm et al., 2019; Grenni et al., 2019; Reyes-García et al., 2021). This makes landscapes appropriate arenas where integrative and transformative partnerships between state and non-state actors can be further developed, and where the various levers for system-wide transformational change are to be found (Bulkeley et al., 2020; ECDPM, 2019; IPBES, 2019a, Chapter 6).

Governance at the landscape level helps to facilitate the complex processes of balancing options, negotiating trade-offs, and ensuring that local stakeholder voices are heard and reflected within the resulting plans (Fagerholm et al., 2020, Karrasch et al., 2017; Kusters et al., 2020; Sarmiento Barletti et al., 2019). Environmental governance typically considers all formal and informal institutions, policy mechanisms, practices and actions related to the management and sustainable use of natural resources, towards improving human well-being. This is evident at the scale of landscapes where various networks, institutions and policies interact and possibly overlap, leading to redundancies in implementation and resulting impacts on both human well-being and conservation objectives. These impacts could be conflicting in nature or have synergistic effects, depending on how aligned they are with multiple priorities of various stakeholders in different contexts and how coherent

the various policy approaches are (UNU-IAS and IGES, 2019). In light of the growing interest in ensuring a transformative approach towards sustainability within the environmental sector (both CBD decisions and IPBES assessment results), it is possible to envision a governance process at the landscape scale that acknowledges and is designed to address challenges and identify solutions within socio-ecological systems. This would be a shift from conventional entrenched governance approaches of sector-based implementation towards inter-sectoral, multi-level and multi-actor policy coherence.

## 2.4 Conserving biodiversity and nature-positive implementation of nature-based solutions

With the increase in managed and agricultural production landscapes, the future of the world's biodiversity will crucially depend on whether humanity is able to sustainably manage these landscapes and benefit from nature's contribution to people, while conserving the remaining areas with high levels of biodiversity and increasing the biodiversity value of managed systems.

### From theory to practice #4: Managing multiple objectives in the Kilombero Valley in Tanzania

The Kilombero Valley is nestled between the Kilombero river and the Udzungwa Mountains national park. The landscape is an important wildlife corridor, contains a Ramsar wetland and is part of the agricultural growth initiative covering southern Tanzania. The NGO African Wildlife Foundation (AWF) is active in the landscape to demonstrate how agricultural productivity and biodiversity conservation goals can be balanced within this landscape, where the expanding human population, unplanned land use, land conversion, poor forest and waterway management, and changing weather patterns due to climate change are putting an extreme strain on natural systems and on downstream water users who depend on these systems. In order to restore wild corridors and improve and conserve water resources, AWF facilitates a multi-stakeholder platform that oversees and discusses the plans and activities. The platform includes stakeholders from local and regional government, various companies, NGOs, knowledge institutes and farmers organisations. The platform is also supported by the National Land Use Planning Commission as an inspiration for developing more inclusive, locally owned and sustainable land-use planning.

Source: PBL, [Spatial modelling of participatory landscape scenarios](#)

There is an increasing global interest in restoration and nature-based solutions (NBS), initiated by the Bonn Challenge and related continental initiatives, and encouraged by the UNCCD, the Aichi restoration target, UN Decade on Ecosystem Restoration and ambitions to mitigate climate change following the Paris Agreement. This makes landscape arrangements even more crucial for providing the broader landscape perspective that supports the effective and equitable realisation of much-needed co-benefits. Nature-based solutions, broadly defined as solutions to societal challenges that are inspired and supported by nature, aim to group a large number of ecosystem-based approaches, such as ecosystem services, green-blue infrastructure, ecological engineering, forest landscape restoration and natural capital. Landscape arrangements apply an iterative and adaptive management approach and provide nature-based solutions and restoration activities from an understanding of the environmental and socio-ecological context of the broader landscape. As such, they focus on realising synergies by ‘doing the right thing in the right place’ and aim to prevent potential negative trade-offs that may arise if climate mitigation or restoration policies encourage such solutions with a low biodiversity value, such as reforestation or afforestation activities with non-native monocultures. This provides synergy with locally led adaptation activities, where landscape arrangements can help to ensure that indigenous people and local communities are empowered to lead sustainable and effective efforts of adaptation to climate change at the landscape scale. Providing coherence and equity in the implementation of NBS and restoration activities is essential in building resilient multi-functional landscapes that embrace living in harmony with nature (Cohen-Shacham et al., 2019; Djentonin et al., 2020; Raymond et al., 2017; Sayer et al., 2013; Seddon et al., 2020; Soanes et al., 2021).

As demonstrated above, landscape arrangements can play a central role in promoting the sustainable use of biodiversity and realising nature-based solutions. Such governance arrangements can be initiated in various ways. Some of them are endogenous and locally crafted initiatives, while others are exogenous, fostered by local governments, non-governmental organisations or international funds with the aim to build on local agency. In many cases, their high level of local embeddedness, holistic and multi-layered nature harbours a huge potential for bridging state and non-state actors, knowledge systems and policy sectors, once institutional hurdles have been overcome (Garcia Martin et al., 2016; Kozar et al., 2014; Mijatovic et al., 2018; Sayer et al., 2013; van Oosten et al., 2018).

Despite multiple attempts to embrace a spatially oriented and integrated landscape approach, the ecosystem approach remains the primary framework for action under the convention (CBD, 2004). Over the years, various additions have been made to support the implementation of ecosystem approaches, including the Addis Ababa guidelines and principles (CBD, 2007). Though rooted in various scientific disciplines, ecosystem and landscape approaches share various principles and guidelines, when it comes to sustainable use and conservation of nature in an equitable way. Following the implementation of the 2011–2020 strategic framework and the Aichi Biodiversity Targets set in 2010, a complement to these principles and guidelines was proposed at the CBD COP 11, in 2012, to specifically provide guidance on how to improve the sustainable use of biodiversity from a landscape



perspective (CBD, 2011; CBD, 2012). This proposal was the outcome of a process organised by various international organisations and provided a rationale for addressing the landscape perspective in land-use planning, and informed the COP about linkages to various international and multilateral efforts to improve sustainable use of biodiversity, at the landscape level. The COP decision XI/25 stated that the proposed guidance could be considered a useful complement to the existing approach. Nevertheless, the COP continued to encourage its members to strengthen the application of the Addis Ababa principles and guidelines on the ecosystem approach to spatial planning, and maintained its sectoral entry points for policy processes.

Landscape approaches, however, recognise that multiple ecosystems (e.g., agricultural, forest, wetland, coastal and peri-urban systems) usually co-exist, and that it is this co-existence that helps to deal with trade-offs and can create the synergies and co-benefits that multi-functional land use creates. To support the transformative change of the governance of spatial development and planning processes in managing our natural resources as envisioned by the new Global Biodiversity Framework, embedding and supporting the concept of landscape approaches can strengthen it. Landscape approaches view nature as a holistic, integrated ecosystem and put a stronger emphasis on anthropogenic factors and nature's contributions to people within the spatial context of a landscape. With the aim to mobilise the whole of society, landscape approaches can resonate better with non-environmental organisations and sectors, as they seek a common language to mainstream biodiversity as an essential element of integrated sustainable development pathways. Landscape approaches could also enable and stimulate actors in, for instance, agricultural commodity supply chains to pursue sustainability goals that go beyond the level of farms.

# 3 Strengthening landscape governance initiatives

In order to realise the landscape potential within the Global Biodiversity Framework, this chapter identifies several opportunities to strengthen landscape governance, including the role of involved non-state and subnational actors. Various challenges that are currently hampering effectiveness are highlighted and we argue that recognising bottom-up landscape level action could provide incentive for taking a more integrated approach in national biodiversity strategies. We also stress the relevance of various international networks that connect many landscape initiatives, worldwide, and support landscape initiatives in exchanging knowledge and experiences.

## 3.1 Policy-related challenges that hamper effective landscape governance

While the concept of landscape approaches appears promising, and landscape arrangements are grounded in cultural, natural and spatial identities, it is also recognised that landscape arrangements face several implementation challenges, and that the scientific evidence to support implementation is slowly being developed. In general, focusing on creating win–win solutions may seem naïve, and trying to achieve cross-sectoral integration in a world of government policy silos is highly ambitious and challenging. This may be problematic, as landscapes are not seldomly caught in webs of conflicting interests and contradicting rules and regulations caused by sectoral policy incoherence, which are not easily overcome. Such incoherence may be reflected in contradicting policy goals of food security, economic development, biodiversity and climate change, or securing local livelihoods versus development of global value chains (van Oosten et al., 2020; Vermunt et al., 2020).

At the landscape level, interactions and potential trade-offs between various resource uses and benefits to various stakeholders are evident. This supports the integration of planning at the landscape level and designing actions that are interlinked across conventional sectors that are active within the landscape, as all decisions pertain to enhancing the well-being of dependent populations and the integrity of ecological systems. However, it is also observed that designing and implementing such holistic policies are effective only when supported by governance structures and plans on higher levels (Reed et al., 2020b). If there are mismatches between land-use preferences, stakeholder prioritisation, generation and

distribution of benefits, then landscape-level governance principles, including inclusivity and preference for diversity, can become disrupted. This implies the need for engagement of and effective communication between stakeholders at multiple levels, and policy innovation should be enabled through innovative governance arrangements based on spatial contexts and identities. By promoting institutional development via multi-stakeholder platforms, participation in formal environmental assessments, developing governance strategies and supporting processes of joint learning, negotiation and reflection within and between multiple levels of governance, the various actors involved in landscape arrangements could address these challenges (Arts et al., 2017; Burgi et al., 2017; Kusters, 2015; Reed et al., 2020a and 2020b; Sayer et al., 2016; Van Boven, 2020).

The ambition of a vertical integration that links local actions, national policies and global goals also poses several challenges for successful implementation of landscape arrangements. When it comes to managing long-term landscape restoration activities, these challenges could, for instance, relate to mismatches in timelines of political cycles and planning horizons, and differences in national objectives and local realities of land-use planning and availability of funds. The challenge to produce co-benefits from agricultural, water- and biodiversity-related restoration activities is addressed by actors in landscape arrangements (Cohen-Shacham et al., 2019; Djentonin et al., 2020; Wiegant et al., 2020).

Another challenge is the mismatch between the boundaries of landscapes and the political and administrative structures within and between countries. Landscapes tend to follow catchments, forests, coastal zones or otherwise socio-ecologically defined boundaries, whereas countries, provinces and municipalities follow territorial boundaries which have been politically shaped and often are not in keeping with landscape-related interests. This boundary mismatch implies that landscape realities may not always align well with national spatial decision-making structures. Sometimes, administrative boundaries do follow ecosystem characteristics or catchment boundaries, but rarely recognise multi-functionality in land use. Such mismatches could lead to problems of accountability, legitimacy and otherwise perceived democratic deficits, or even lack the political will to support ongoing collaborations between actors to produce environmentally sustainable and socially just land-use outcomes (Hedden-Dunkhorst et al., 2020; Gaugitsch et al., 2020; Kusters et al., 2020; Ravikumar et al., 2018; Reed et al., 2020a). This hampers not only the institutionalisation and scale up of landscape arrangements, but also their access to support mechanisms related to technical innovation or finance (Tobin-de la Puente et al., 2021). This highlights the need for CBD Parties to recognise and support landscape initiatives and arrangements to overcome internal inconsistencies of sectorial planning frameworks, and to ensure that integrated land-use planning takes into account ecological, socio-cultural and economic processes for optimal realisation of co-benefits, from a range of ecosystem services (ALD, 2020).

The success of landscape arrangements ultimately depends on the capacities of the stakeholders involved (Sayer et al., 2013, 2016; Reed et al., 2015, 2017, 2020a, 2020b). Investment in landscape arrangements by strengthening such capacities could inspire a new

generation of landscape-inclusive biodiversity strategies and action plans, which may integrate multiple policy objectives within a single spatial vision for transformative change, organised in collaboration with subnational and local authorities (Avlonitis et al., 2012; CBD, 2010; Edinburgh Declaration, 2020).

### 3.2 Landscapes and the national biodiversity strategies and action plans

A straightforward way for the CBD to take advantage of the broader biodiversity potential of landscape arrangements could be realised by including them in mechanisms that already exist and are mandated by the Convention and its members. Specifically, under Article 6 of the Convention, all CBD member states are obligated to develop national strategies, policies and programmes for the conservation and sustainable use of biodiversity through their national biodiversity strategies and action plans (NBSAPs). Through these NBSAPs, the conservation and sustainable use of biological resources by all actors is to be integrated into national decision-making, and mainstreamed across all sectors of national economies and policy-making frameworks. This makes NBSAPs a suitable mechanism for integrating landscape approaches. As such, they can build on existing landscape arrangements as front runners of sustainable use in national strategies and plans.

According to a recent review of the NBSAPs that have currently been submitted by CBD member states, however, most of these do not include landscape approaches in general, and the role of integrated landscape arrangements in particular remains underexplored. According to the review, 44% of the available NBSAPs mentioned integrated policy approaches in landscapes and seascapes, and of those, only a few included 'landscape approach' or 'integrated landscape management'. Mostly, these references were made in relation to project and programme design. Even though the introduction of integrated landscape approaches appears to be increasing, worldwide, and the concepts have been awarded higher priority in national policy and planning, certain gaps still remain, such as in global NBSAP coverage, and between proposed measures in NBSAPs and projects actually being implemented on the ground. This finding challenges the true transformative potential of the NBSAP mechanism (UNU-IAS, 2018; Uetake et al., 2018).

In order to address this challenge, a series of workshops were organised with experts and representatives from landscape initiatives, worldwide, with the aim to identify strategies for promoting the use of landscape approaches in the design and implementation of NBSAPs. Based on these efforts, an Expert Thematic Workshop on Landscape Approaches for the Post-2020 Global Biodiversity Framework was held in Kumamoto, Japan, in September 2019 (UNU-IAS, 2019). The workshop participants concluded that landscape approaches should be recognised as a way of encouraging cross-sectoral and multilevel collaboration to improve sustainable use of biodiversity. Following that, landscape arrangements are living examples of landscape approaches, as these reflect the practical arrangements to make them work. As most of the workshop's participants were actively engaged in such

arrangements, there was broad consensus about a stronger embeddedness of these arrangements in policy processes across sectors and levels of policy-making enhancing their effectiveness, and strengthening subnational networking or whole-of-society governance. To make this happen, the NBSAP coordinating bodies and partners should be more sensitive to the potential of landscape arrangements, including those operating in managed landscapes or beyond the traditional scope of the CBD, and strengthen their position within the post-2020 process and resulting Global Biodiversity Framework. The ongoing initiative by UNU-IAS to produce an NBSAP manual to assist CBD member states in applying landscape approaches and supporting landscape arrangements is a necessary step towards achieving that ambition.

### 3.3 Multi-level networks for stronger positioning of landscapes

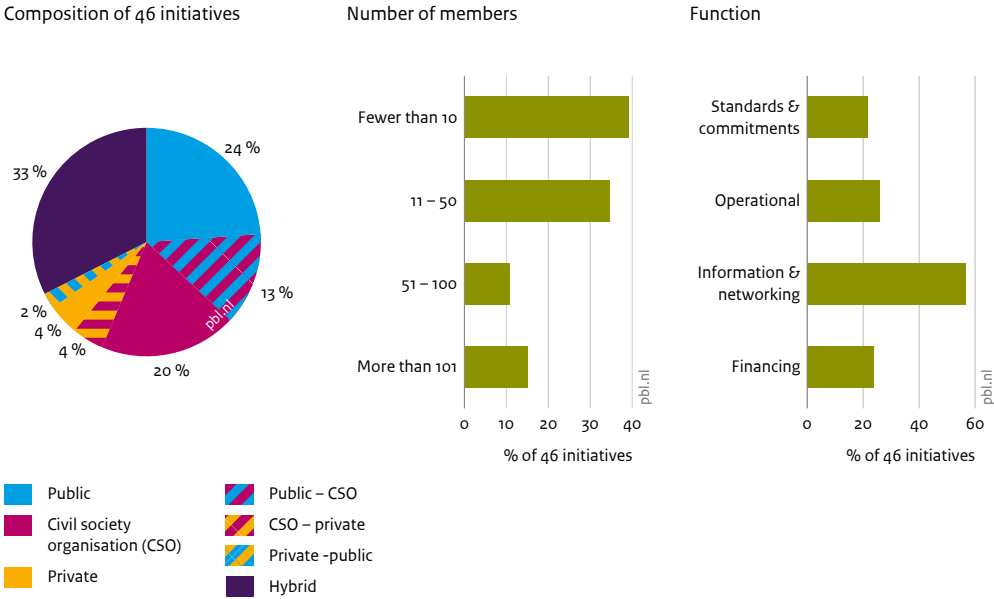
Globally, landscape initiatives and arrangements can be seen as important opportunities for non-state actor involvement in planning and decision-making. Although they are a very diverse and heterogenic group, landscape initiatives are increasingly connected and represented through a number of international networks (Figure 3.1). This strengthens their role as non-state actors in the global debate, and offers the opportunity of spearheading the desired ‘whole of society’ approach and supporting the Action Agenda for Nature and People, together with initiatives originating from networks of cities, businesses, financial institutions, groups of indigenous peoples and local communities and also subnational governments (Bulkeley et al., 2021; Kok et al., 2019; Van Oorschot et al., 2020).

These networks have proven to be effective in providing information and linking the needs and aspirations of landscapes worldwide to larger international policy arenas, corporate networks and the world of finance (Armitage et al., 2019; Kozar et al., 2019; Pattberg et al., 2018; Shames and Scherr, 2020). Social media analysis has also shown that these networks are indeed highly effective in amplifying local voices and in increasing the level of inclusiveness in global policy debate (Brandt et al., 2019).

Although the number of members varies, these international landscape cooperative networks often contain a mix of actors. They also regularly work closely with actors on the ground including rights holders and land holders in the landscape, indigenous peoples and local communities. They are often experienced and savvy in uniting various perspectives, values and worldviews to understand landscape-related needs and stakeholder priorities and in coordinating the effective application of landscape approach interventions. They are also brokers in translating global policies to local language and sharing local solutions for global challenges. Their knowledge of public policy governance and policy-making processes also enables the translation of their activities into practical and feasible policy-oriented recommendations, which could provide useful insights for policy decision-makers.

Figure 3.1

**International cooperative initiatives promoting landscape approaches as of 2020**



Source: IVM BIOSTAR database

Overview of international initiatives applying and/or promoting landscape approaches.

International landscape networks function as mediators, coordinators and matchmakers. An overview of the main well-established international networks is provided below. These networks all share similar ambitions and are complementary in the sense that they have different origins, institutional structure, thematic entry points and activities. Together, in the run-up to the CBD COP 15 meeting, these international networks resonate clear messages towards the post-2020 process that landscape initiatives and arrangements provide an opportunity for the new GBF to become a truly transformative process involving the whole of society.

## Overview of international networks connecting and supporting landscape approaches and initiatives



**The International Partnership for the Satoyama Initiative** (IPSI) is the international network most directly linked to the CBD. It was established in 2010 during CBD COP 10 to realise the vision of the Satoyama Initiative with global partners. It has around 270 member organisations from governments, NGOs, civil society, indigenous peoples and local communities, youths, women, the private sector and academia, a global network spanning over 80 countries. Its core vision is to realise ‘societies living in harmony with nature’ that are built on positive human–nature relationships. Members collaborate on capacity-building and knowledge-sharing activities to promote the application of landscape approaches in ‘socio-ecological production landscapes and seascapes’ (SEPLS). The IPSI Secretariat is hosted by the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) in Japan.



**The Global Landscapes Forum** (GLF) initially started as a back-to-back meeting with the regular UNFCCC climate COP meetings, conveniently sharing a key audience. From its first event at the 2013 climate COP in Warsaw, it has now developed into the world’s largest knowledge-led platform on integrated land use, dedicated to achieving the Sustainable Development Goals and Paris Agreement. The GLF takes a holistic approach to create sustainable landscapes that are productive, prosperous, equitable and resilient. It considers five cohesive themes: food and livelihood initiatives, landscape restoration, rights, finance and measuring progress. It is led by the Center for International Forestry Research (CIFOR), in collaboration with its co-founders UNEP, the World Bank and the Charter Members. Since its formation in 2013, 4,900 organisations and 190,000 participants have taken part in the Forum.



### **The Landscapes for People, Food and Nature**

(LPFN) initiative, which began in 2012, is an international collaborative initiative of knowledge-

sharing, dialogue and action to support integrated landscape management (ILM) in order to achieve three simultaneous goals: improved food production, ecosystem conservation, and sustainable livelihoods. The secretariat is managed by EcoAgriculture Partners and, together with more than 60 worldwide partner organisations, they promote and strengthen integrated landscape management and multi-stakeholder processes around the world. The initiative supports the uptake of integrated landscape management, at a global scale, by sharing and evaluating knowledge, experience and challenges, showcasing and assessing tools and methods for implementation, and building capacity of innovators and institutions.

**The African Landscapes Dialogue** is a continental initiative under the LPFN umbrella and has convened several meetings since 2014. In light of the challenge to implement large-scale national commitments by many African countries to restore degraded land and use land-based climate change mitigation options, the African Landscapes Dialogue is designed to discuss progress on the African Landscapes Action Plan and to highlight new locally led initiatives and innovations, share lessons learned and experiences in integrated landscape initiatives across Africa, build knowledge, skills, connections and motivation amongst grassroots leaders and increase the effectiveness of their efforts. Its action plan lays out priority actions to advance integrated landscape approaches that work deliberately to support food production, ecosystem conservation and rural livelihoods across entire landscapes.



### **The Global Partnership on Forest and Landscape Restoration**

(GPFLR) is a global network that unites governments, organisations, academic/research institutes, communities and individuals under the common goal to restore

the world's lost and degraded forests and their surrounding landscapes. Specifically, the GPFLR responds directly to the Bonn Challenge to restore 150 million hectares of deforested and degraded land by 2020 and 350 million hectares by 2030. The GPFLR was initiated in 2003 by a small consortium of like-minded organisations and spearheaded by IUCN. Its purpose is to catalyse dynamic, voluntary action through sharing experiences on restoration efforts that deliver tangible benefits to both local communities and nature through a landscape approach, while also fulfilling international commitments on forests.





**1000 Landscapes for 1 Billion People** is a more recently launched initiative described as a radical collaboration for resilient communities and restored nature. Based on extensive experience from participating LPFN partners, the initiative aims

to shift the system to position integrated landscape partnerships at the centre of development and environment strategies. With the 2030 ambition to improve the lives for over one billion people and help restore and sustain 1000 landscapes, it aims to provide a major contribution to the SDGs. The initiative will serve as an accelerator and provide a digital data management platform and integrated tools, along with seed funding and financial innovation that helps landscape partnerships plan, fund, implement and demonstrate the impact of transformative landscape investment portfolios.

# 4 The way forward: embedding a transformative landscape perspective in the Global Biodiversity Framework

Developing approaches to ensure sustainable management of landscapes is crucial for meeting CBD and SDG goals for 2030. The analysis in this policy brief suggests that landscape governance arrangements, which are burgeoning around the globe, can play an important role in further developing and realising the post-2020 Global Biodiversity Framework (GBF). Landscape arrangements provide transformative, whole-of-society approaches for nature and people that will be able to strengthen conservation as well as nature's contribution to people in managed, natural and urban landscapes. The principles of the landscape approach are accepted in the CBD, and countries are urged to apply a landscape perspective to improve the sustainable use of biodiversity.

## 4.1 Including a transformative landscape perspective

In the CBD, spatial planning and landscape governance, so far, are mainly seen as a means of implementation and part of a whole-of-government and jurisdictional approach. This misses out on the potential of bottom-up landscape governance and initiatives as part of a whole-of-society approach. The multitude of landscape governance arrangements that are emerging worldwide beyond the CBD amplifies the potential of landscape initiatives for biodiversity. The GBF could provide an impetus for bottom-up landscape-level action for nature and people.

The growing number of landscape actions also offers potential for the development and implementation of a new round of NBSAPs following CBD COP 15. Analysis of the current NBSAPs (UNU-IAS, 2018) shows that integrated landscape and spatial planning approaches have not been widely incorporated into NBSAPs, suggesting room for improvement in traditional CBD implementation mechanisms. In addition, there is no recognition of landscape governance arrangements as potential pathways for moving towards a more bottom-up and participatory spatial planning and more inclusive ways towards achieving the biodiversity goals. Moving beyond the traditional jurisdictional approach towards a more landscape-inclusive approach to spatial planning would allow for better alignment with locally crafted initiatives and arrangements within landscapes.

The Global Biodiversity Framework currently runs the risk of missing this landscape opportunity, whereas it could strengthen the ambitions of the GBF with respect to:

- Providing an opportunity for organising a ‘whole-of-society’ movement towards the environmental sustainability discourse and further conservation consciousness;
- Conserving and restoring nature, improving connectivity and addressing the direct and indirect drivers of biodiversity loss;
- Capturing nature’s benefits to people, specifically building on the important role that indigenous and local communities play, in this respect, and strengthening their rights over resources;
- Providing a legitimate overarching spatial framework for realising coherent nature-based solutions (NBS) within multi-functional landscapes; and
- Combining supply-chain and landscape approaches to develop ‘nature-positive’ or ‘nature-inclusive’ development trajectories in agricultural production or working landscapes that involve economic sectors such as agriculture, forestry, fisheries and resource extraction.

Integrating a landscape perspective in the theory of change that underpins the GBF, its goals and targets, means of implementation and review mechanisms, will help to raise ambitions of landscape-level action for nature and people. The landscape perspective also needs to be included in the various frameworks that will further operationalise and implement the GBF, such as the *Long-term Approach to Mainstreaming, the Strategic Frameworks for Capacity Development and Resource Mobilisation and Finance* (CBD, 2021a). It may also be considered to work towards a new CBD COP decision on landscapes that revisits and further develops Decision XI/25 dating back to 2012, in the light of the agreed GBF.

## 4.2 Triggering landscape action

The post-2020 Global Biodiversity Framework can play an important role in triggering landscape action. The first draft of the GBF proposes the application of a theory of change that calls for immediate policy actions to transform economic, social and financial models across national, regional and global levels, in order to halt biodiversity loss, allow recovery of nature and attain net improvements by 2050 to achieve CBD’s vision of ‘living in harmony

with nature'. In the first-draft document, 21 action targets provide the framework through which milestones for 2030 and goals for 2050 are to be achieved.

A key element of the GBF's theory of change is that the implementation will be done in partnership with many organisations at global, national and local levels and that it will take a rights-based approach and recognise the principle of intergenerational equity. Effective landscape governance, however, does entail the participation and cooperation of stakeholders at the level of policy implementation. This includes indigenous peoples and local communities and directly speaks to the GBF targets on ensuring equity, protection of associated traditional knowledge and rights over resources, as well as to the GBF implementation support mechanisms and enabling conditions (UNU-IAS, 2019). Creating an enabling language is crucial for the further engagement of landscape actors, and an important step towards further developing a whole-of-society approach.

Currently, the first-draft GBF document makes no explicit reference to landscapes, either at the level of operation, as a means of implementation, in its main indicators for monitoring and review, or as an opportunity for operationalising the whole-of-society approach. Only once does it mention the need for spatial planning in Target 1, as part of the targets relating to threats to biodiversity. This target stipulates that 'by 2030, all land and sea areas globally are under integrated biodiversity-inclusive spatial planning addressing land- and sea-use change, retaining existing intact and wilderness areas' (CBD, 2021b).

While spatial planning is indeed hugely important for realising the conservation objectives of the CBD, the targets in the current draft are missing the point that integrated landscape initiatives especially provide their added value in mixed landscapes. There they are shaping the sustainable use agenda for nature and people. Through the GBF, the CBD could contribute to empowering local communities in the management of their common affairs. To make that happen, the GBF would need to recognise that also the realisation of many of the other targets will rely, at least partially, on landscape-level action and better spatial planning, including:

- Target 2, to ensure that at least 20% of degraded freshwater, marine and terrestrial ecosystems are under restoration, ensuring connectivity amongst them and focusing on priority ecosystems;
- Targets 3 and 4, which call for well-connected PAs and OECMs by 2030, for at least 30% of the planet, and ensuring the sustainable use of wild species;
- Target 8 to increase contributions to climate change mitigation and adaption and disaster-risk reduction from ecosystem-based approaches;
- Targets 9–13, which focus on meeting people's needs through sustainable use and benefit-sharing; and
- Targets 14 and 15, which focus on the integration of biodiversity in policies, planning and agricultural production;
- Targets 20 and 21, which aim to ensure equitable participation in decision-making related to biodiversity and ensure rights over relevant resources of indigenous peoples and local communities, could recognise the importance of landscape-level action.

It is important for the international community to clearly specify various types of implementation-support mechanisms and enabling conditions that are both legitimate and necessary in any national-level effort for implementing the GBF through landscape-level action. This would include specifying the role of the ‘Long-term strategy for mainstreaming’ that already recognises the importance of integrating ecosystem and biodiversity values into spatial planning at different levels of policymaking and across ministries. In addition, the role that landscape initiatives can play in mainstreaming biodiversity as part of an integrated approach to sustainable development across society should be highlighted as well. The success of the post-2020 agenda also depends on its ability to invest in stakeholder capacities to ensure that landscape approaches are implemented in a sustainable, inclusive and just manner.

Developing capacities of landscape actors and enabling them to design coherent landscape biodiversity strategies and action plans cannot be done through standardised capacity development methods such as training. Instead, it requires a flexible framework that allows for an iterative process of trial and error, as well as adaptation, prototyping and collaborative learning, tailored to the socio-spatial dynamics of a particular landscape (Foli et al., 2018; Ros-Tonen et al., 2018; Reed et al., 2020a). Such a comprehensive and flexible framework is suggested in the *Background document to facilitate discussions on the long-term strategic framework for capacity-building beyond 2020* (CBD, 2020c) and informed the thematic consultation on capacity-building and technical and scientific cooperation organised under the post-2020 process. We strongly recommend its application on landscape level, since this is where information and knowledge systems that inspire transformative change are often developed and collaborative learning networks can be built (Providoli et al., 2019).

Capacity-building should not only aim to empower local actors by giving them just cooperative and implementation roles, but ultimately also enable their direct involvement in policy design and decision-making with respect to their local landscapes. Increasing their capacities, in turn, will enhance the institutional capacities needed to deliver larger national strategies and global goals. Resource mobilisation could include channelling investment towards the landscape level, as is, for example, happening through the Land Degradation Neutrality (LDN) Fund of the UNCCD. As landscape-level initiatives can generate multiple benefits, they can also attract various sources of funding.

### 4.3 Building on landscape ambition

The post-2020 Global Biodiversity Framework can build on the potential to further mobilise and raise ambitions of existing landscape initiatives for realising the CBD goals and targets for the coming decade. This will require broadening the way the CBD engages with landscape actors and novel mechanisms for recognition and reporting, along with a better utilisation of the existing NBSAPs mechanism in the CBD, as the role of landscape arrangements otherwise remains underexplored.

To facilitate the implementation of landscape approaches, identify challenges, organise stakeholder dialogue and promote the exchange of knowledge and experiences within and between landscapes, a number of umbrella organisations with global outreach have become important actors in increasing the momentum for landscape thinking and acting. These networks include the Satoyama Initiative, the Global Landscapes Forum, the Landscapes for People, Food and Nature initiative and others (Section 3.3). Most of these initiatives have only recently started to engage in CBD processes, but the implementation of the GBF could benefit greatly from their work.

The Action Agenda for Nature and People would provide an opportunity for doing so. It was initiated at CBD COP 14 in 2018, in Sharm El-Sheikh, Egypt, to collect non-state commitments to contribute to global goals for nature and people and to provide support for the post-2020 GBF. The Action Agenda offers an opportunity to recognise, collect and ratchet up the positive contribution of landscape initiatives for nature and people (Kok et al., 2019). Stronger involvement, recognition and commitments by landscape initiatives and their umbrella organisations would add value to this process, and contribute to a feasible and impactful way forward. Lessons could be learned from the Urban Agenda and the CBD Edinburgh Process for subnational governments, city and other local authorities on the post-2020 GBF (Bulkeley et al., 2021).

Perhaps landscape initiatives for sustainable landscape management could receive some form of recognition next to protected areas and other effective area-based conservation measures (OECMs), as an instrument within the CBD. This could also become a joint instrument between the Rio Conventions, realising the various objectives of the conventions through integrated landscape management. As landscape governance arrangements are already playing an important role in the UNFCCC and the restoration agenda from the UNCCD, spatial planning and landscape governance arrangements could also play an important role in creating synergies between the three Rio Conventions, the Bonn Declaration and organisations such as the FAO that especially focus on sustainable production in managed landscapes. The UN Decade on Ecosystem Restoration provides an important opportunity to further develop and implement such joint ambitions (Sewell et al., 2020).

Engagement of landscape actors in the Action Agenda would require some level of political commitment that would provide certainty over the next decade to ensure that landscape commitments will be recognised in the Global Biodiversity Framework and reported globally. This could become part of the emerging accountability framework for the global biodiversity framework. Commitments being made by landscape initiatives then need to become legible at the global level, in such a way that landscape initiatives can rightly claim to be playing their part in global efforts and become explicitly recognised as such. A platform supporting voluntary area-based conservation commitments by landscape initiatives is currently being developed by UNEP-WCMC, building on the experiences with Voluntary Conservation Areas project platform (Earthmind, 2021). This would also require landscape initiatives to take part in periodic reporting and updating of commitments,

accompanied by plans that set out how transformative action for biodiversity is being undertaken by landscape initiatives. This could also be accompanied by independent processes of peer review and reward, as for example is now being proposed by the LandScale monitoring framework within the 1000 Landscapes initiative, and similarly the SourceUp programme developed by the IDH Sustainable Trade Initiative (Landscape, 2021; Sourceup, 2021). Such processes would have the advantage of not only ratcheting up the commitments and ambition levels amongst landscape initiatives, but also function as a means through which they can be held accountable for their promised actions and through which learning can be generated.

# References

- Albrechts L, Barbanente A and Monno V. (2020). Practicing transformative planning: the territory-landscape plan as a catalyst for change. *City, Territory and Architecture*, 7(1), 1, doi:10.1186/s40410-019-0111-2.
- ALD (2020). How integrated landscape management can contribute to the CBD post-2020 Biodiversity Framework: Recommendations for Policymakers from African Landscape Leaders. Authored by Ajjugo, J., J. Kamanga, S. Kanyamibwa, and S.J. Scherr, Landscapes for People, Food and Nature initiative, Washington, D.C..
- Appleton J. (2018). Research into the potentials of Integrated Landscape Management: a study into Honduras, PBL-TU Delft internship report, available at <https://repository.tudelft.nl/islandora/object/uuid%3Ac3f5b9c0-e8c7-462c-9df2-0a067953c167>.
- Armitage D, Mbatha P, Muhl E-K, Rice W and Sowman M. (2020). Governance principles for community-centered conservation in the post-2020 global biodiversity framework. *Conservation Science and Practice*, 2(2). e160. doi:10.1111/csp2.160.
- Arts B, Buizer M, Horlings L, Ingram V, Van Oosten C and Opdam P. (2017). Landscape Approaches: A State-of-the-Art Review. 42(1), 439-463, doi:10.1146/annurev-environ-102016-060932.
- Avlonitis G, Doll C, Galt R, Mader A, Moreno-Peñaranda R, Patrickson S, Puppim de Oliveira J and Shih W. (2012). Local Biodiversity Strategy and Action Plan Guidelines: an aid to municipal planning and biodiversity conservation, Working Paper, doi:10.13140/RG.2.2.28707.45607.
- Ayala-Orozco B, Rosell JA, Merçon J, Bueno I, Alatorre-Frenk G, Langle-Flores A and Lobato A. (2018). Challenges and Strategies in Place-Based Multi-Stakeholder Collaboration for Sustainability: Learning from Experiences in the Global South. *Sustainability*, 10(9), doi:10.3390/su10093217.
- Bieling C, Eser U and Plieninger T. (2020). Towards a better understanding of values in sustainability transformations: ethical perspectives on landscape stewardship. *Ecosystems and People*, 16(1), 188–196. doi:10.1080/26395916.2020.1786165.
- Brandt J, Buckingham K, Buntain C, Anderson W, Ray S, Pool J-R and Ferrari N. (2020). Identifying social media user demographics and topic diversity with computational social science: a case study of a major international policy forum. *Journal of Computational Social Science*, 3(1), 167–188, doi:10.1007/s42001-019-00061-9.
- Bulkeley H, Kok M and Van Dijk J. (2020). Moving Towards Transformative Change for Biodiversity: Harnessing the Potential of the Post-2020 Global Biodiversity Framework Workshop Consultation Draft By the Eklipe Expert Working Group.
- Bulkeley H, Kok M and Xie L. (2021). Realising the Urban Opportunity: Cities and Post-2020 Biodiversity Governance. PBL Netherlands Environmental Assessment Agency, The Hague.
- Bürgi M, Ali P, Chowdhury A, Heinimann A, Hett C, Kienast F, Mondal MK, Upreti BR and Verburg PH. (2017). Integrated Landscape Approach: Closing the Gap between Theory and Application. *Sustainability*, 9(8), doi:10.3390/su9081371.



- Carmenta R, Coomes DA, DeClerck FAJ, Hart AK, Harvey CA, Milder J, Reed J, Vira B and Estrada-Carmona N. (2020). 'Characterizing and Evaluating Integrated Landscape Initiatives.' *One Earth* 2(2): 174–187, doi:10.1016/j.oneear.2020.01.009.
- CBD (2004). COP decision VII/11: Ecosystem approach, CBD UNEP/CBD/COP/DEC/VII/11.
- CBD (2007). CBD guidelines: Addis Ababa principles and guidelines for the sustainable use of biodiversity, published by the Secretariat of the CBD.
- CBD (2011). SBSTTA/15/13 info note: Report on how to improve sustainable use of biodiversity in a landscape perspective landscape, CBD UNEP/CBD/SBSTTA/15/13.
- CBD (2012). COP Decision XI/25: Sustainable use of biodiversity: bushmeat and sustainable wildlife management, UNEP/CBD/COP/DEC/XI/25.
- CBD (2020a). Update of the zero draft of the post-2020 global biodiversity framework, CBD/POST2020/PREP/2/1, published by the Secretariat of the CBD.
- CBD (2020b). Global Biodiversity Outlook 5, published by the Secretariat of the CBD, available online [www.cbd.int/GBO5](http://www.cbd.int/GBO5).
- CBD (2020c). Overview of the outcomes of the study to inform the preparation of a long-term strategic framework for capacity-building beyond 2020, CBD/POST2020/WS/2020/2/INF/1.
- CBD (2021a). SBI-03 info notes on mainstreaming (CBD/SBI/3/13), capacity development (CBD/SBI/3/7/ADD1) and resource mobilization (CBD/SBI/3/5), available via <https://www.cbd.int/meetings/SBI-03>.
- CBD (2021b). First draft of the post-2020 global biodiversity framework, CBD/WG2020/3/3, published by the Secretariat of the CBD.
- Cohen-Shacham E, Andrade A, Dalton J, Dudley N, Jones M, Kumar C, Maginnis S, Maynard S, Nelson CR, Renaud FG, Welling R and Walters G. (2019). 'Core principles for successfully implementing and upscaling Nature-based Solutions.' *Environmental Science & Policy* 98: 20–29, doi:10.1016/j.envsci.2019.04.014.
- Díaz S, Zafrá-Calvo N, Purvis A, Verburg PH, Obura D, Leadley P, Chaplin-Kramer R, De Meester L, Dulloo E, Martín-López B, Shaw MR, Visconti P, Broadgate W, Bruford MW, Burgess ND, Cavender-Bares J, DeClerck F, Fernández-Palacios JM, Garibaldi LA, Hill SLL, Isbell F, Khoury CK, Krug CB, Liu J, Maron M, McGowan PJK, Pereira HM, Reyes-García V, Rocha J, Rondinini C, Shannon L, Shin Y-J, Snelgrove PVR, Spehn EM, Strassburg B, Subramanian SM, Tewksbury JJ, Watson JEM and Zanne AE. (2020). Set ambitious goals for biodiversity and sustainability. *Science*, 370(6515), 411, doi:10.1126/science.abe1530.
- Djenontin INS, Zulu LC and Etongo D. (2020). Ultimately, What is Forest Landscape Restoration in Practice? Embodiments in Sub-Saharan Africa and Implications for Future Design. *Environmental Management*, doi:10.1007/s00267-020-01360-y.
- Earthmind (2021). Voluntary Conservation Areas project website accessed on 6 June 2021, via <https://earthmind.org/vca>.
- ECDPM (2019). Civil society and business: pulling in the same direction? *Great insights* Vol 8, issue 1.
- Edinburgh Declaration (2020). Edinburgh Declaration on post-2020 global biodiversity framework, resulting from the Edinburgh Process, available at <https://www.gov.scot/publications/edinburgh-declaration-on-post-2020-biodiversity-framework/>.

- Estrada-Carmona N, Hart AK, DeClerck FAJ, Harvey CA and Milder JC. (2014). Integrated landscape management for agriculture, rural livelihoods, and ecosystem conservation: An assessment of experience from Latin America and the Caribbean. *Landscape and Urban Planning*, 129, 1–11, doi:10.1016/j.landurbplan.2014.05.001.
- Fagerholm N, Martín-López B, Torralba M, Oteros-Rozas E, Lechner AM, Bieling C, Stahl Olafsson A, Albert C, Raymond CM, Garcia-Martin M, Gulsrud N and Plieninger T. (2020). Perceived contributions of multifunctional landscapes to human well-being: Evidence from 13 European sites. *People and Nature*, 2(1), 217–234, doi:10.1002/pan3.10067.
- FPP (2020). Forest Peoples Programme: Local Biodiversity Outlooks 2: The contributions of indigenous peoples and local communities to the implementation of the Strategic Plan for Biodiversity 2011–2020 and to renewing nature and cultures. Available online at [www.localbiodiversityoutlooks.net](http://www.localbiodiversityoutlooks.net).
- Foli S, Ros-Tonen MAF, Reed J and Sunderland T. (2018). Natural Resource Management Schemes as Entry Points for Integrated Landscape Approaches: Evidence from Ghana and Burkina Faso. *Environmental Management*, 62(1), 82–97. doi:10.1007/s00267-017-0866-8.
- García-Martín M, Bieling C, Hart A and Plieninger T. (2016). Integrated landscape initiatives in Europe: Multi-sector collaboration in multi-functional landscapes. *Land Use Policy*, 58, 43–53, doi:10.1016/j.landusepol.2016.07.001.
- Gassner A, Dobie P, Harrison R, Vidal A, Somarriba E, Pythoud F, Kumar C, Laumonier Y and Chhatre A. (2020). Making the post-2020 global biodiversity framework a successful tool for building biodiverse, inclusive, resilient and safe food systems for all. *Environmental Research Letters*, 15(10), 101001, doi:10.1088/1748-9326/abae2b.
- Gaugitsch H and Heissenberger A. (2020). Landscape approaches in a post-2020 global biodiversity framework; a tool to strengthen biodiversity. *Expertise France #13*.
- GLF (2021). One world, one health: recommendations to harness the power of landscapes. Report from the Global Landscapes Forum #Biodiversity, October 2020.
- Grenni S, Horlings LG and Soini K. (2020). Linking spatial planning and place branding strategies through cultural narratives in places. *European Planning Studies*, 28(7), 1355–1374. doi:10.1080/09654313.2019.1701292.
- Hedden-Dunkhorst B and Schmitt F. (2020). Exploring the Potential and Contribution of UNESCO Biosphere Reserves for Landscape Governance and Management in Africa. *Land*, 9(8), doi:10.3390/land9080237.
- IPBES (2019a). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. 793 Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn.
- IPBES (2019b). Nature's Dangerous Decline 'Unprecedented' Species Extinction Rates 'Accelerating', Media Release: 7 May 2019. Accessed on 13 May 2020: <https://ipbes.net/news/Media-Release-Global-Assessment>.
- Kennedy CM, Oakleaf JR, Theobald DM, Baruch-Mordo S and Kiesecker J. (2019). Managing the middle: A shift in conservation priorities based on the global human modification gradient. *Global Change Biology*, 25(3), 811–826. doi: 10.1111/gcb.14549.
- Kindornay S. (2019). Progressing National SDG Implementation: An independent assessment of the voluntary national review reports submitted to the United Nations

- High-level Political Forum in 2018. Ottawa: Canadian Council for International Co-operation.
- Karrasch L, Maier M, Kleyer M and Klenke T. (2017). Collaborative Landscape Planning: Co-Design of Ecosystem-Based Land Management Scenarios. *Sustainability*, 9(9), doi:10.3390/sug091668.
- Kok M, Widerberg O, Negacz K, Bliss C and Pattberg P. (2019). Opportunities for the Action Agenda for Nature and People. PBL Netherlands Environmental Assessment Agency, The Hague.
- Kok MTJ, Meijer JR, Van Zeist W-J, Hilbers JP, Immovilli M, Janse JH, Stehfest E, Bakkenes M, Tabeau A, Schipper AM and Alkemade R. (2020). Assessing ambitious nature conservation strategies within a 2 degree warmer and food-secure world. *bioRxiv*, 2020.2008.2004.236489, doi:10.1101/2020.08.04.236489.
- Kozar R, Buck LE, Barrow EG, Sunderland TCH, Catacutan DE, Planicka C, Hart AK and Willemsen L. (2014). Toward Viable Landscape Governance Systems: What Works? Washington, DC: EcoAgriculture Partners, on behalf of the Landscapes for People, Food, and Nature Initiative.
- Kozar R, Galang E, Alip A, Sedhain J, Subramanian S and Saito O. (2019). Multi-level networks for sustainability solutions: the case of the International Partnership for the Satoyama Initiative. *Current Opinion in Environmental Sustainability*, 39, 123–134, doi:10.1016/j.cosust.2019.09.002.
- Kusters K, De Graaf M, Buck L, Galido K, Maindo A, Mendoza H, Nghi TH, Purwanto E and Zagt R. (2020). Inclusive Landscape Governance for Sustainable Development: Assessment Methodology and Lessons for Civil Society Organizations. *Land*, 9(4), doi:10.3390/land9040128.
- LandScale (2021). Website for the LandScale monitoring framework, accessed 19 July 2021 via [www.landscape.org](http://www.landscape.org).
- Larsson AM and Sarmiento Barletti JP. (2020). Designing for engagement: Insights for more equitable and resilient multi-stakeholder forums, CIFOR Info Note 281.
- Leclère D, Obersteiner M, Barrett M, Butchart SHM, Chaudhary A, De Palma A, DeClerck FAJ, Di Marco M, Doelman JC, Dürauer M, Freeman R, Harfoot M, Hasegawa T, Hellweg S, Hilbers JP, Hill SLL, Humpenöder F, Jennings N, Krisztin T, Mace GM, Ohashi H, Popp A, Purvis A, Schipper AM, Tabeau A, Valin H, Van Meijl H, Van Zeist W-J, Visconti P, Alkemade R, Almond R, Bunting G, Burgess ND, Cornell SE, Di Fulvio F, Ferrier S, Fritz S, Fujimori S, Grooten M, Harwood T, Havlik P, Herrero M, Hoskins AJ, Jung M, Kram T, Lotze-Campen H, Matsui T, Meyer C, Nel D, Newbold T, Schmidt-Traub G, Stehfest E, Strassburg BBN, Van Vuuren DP, Ware C, Watson JEM, Wu W and Young L. (2020). Bending the curve of terrestrial biodiversity needs an integrated strategy. *Nature*, 585(7826), 551–556, doi:10.1038/s41586-020-2705-y.
- Loorbach (2019). Exploring elements for a transformative biodiversity agenda post-2020, CBD Post-2020 Info Note, available via <https://www.cbd.int/post2020/doc/Paper-DerkLoorbach.pdf>.
- Meijer J, Berkhout E, Hill C and Vardon M. (2020). Integrated landscape management and natural capital accounting: working together for sustainable development. PBL Netherlands Environmental Assessment Agency, The Hague.

- Mijatovic D, Sakalian M and Hodgkin T. (2018). Mainstreaming Biodiversity in Production Landscapes. United Nations Environment Programme.
- Milder JC, Hart AK, Dobie P, Minai J and Zaleski C. (2014). Integrated Landscape Initiatives for African Agriculture, Development, and Conservation: A Region-Wide Assessment. *World Development*, 54, 68–80, doi:10.1016/j.worlddev.2013.07.006.
- Pattberg P, Widerberg O and Kok MTJ. (2019). Towards a Global Biodiversity Action Agenda. *Global Policy*, 10(3), 385–390. doi:10.1111/1758-5899.12669.
- PBL (2017). *People and the Earth*. PBL Netherlands Environmental Assessment Agency, The Hague.
- Prager K. (2015). Agri-environmental collaboratives as bridging organisations in landscape management. *Journal of Environmental Management*, 161, 375–384, doi:10.1016/j.jenvman.2015.07.027.
- Providoli I, Gete Z, Kiteme B, Amare B and Mwangi J. [editors] (2019). *Shaping Sustainable Socio-Ecological Landscapes in Africa: The Role of Transformative Research, Knowledge, and Partnerships*. Centre for Development and Environment (CDE), University of Bern.
- Ravikumar A, Larson AM, Myers R and Trench T. (2018). Inter-sectoral and multilevel coordination alone do not reduce deforestation and advance environmental justice: Why bold contestation works when collaboration fails. *Environment and Planning C: Politics and Space*, 36(8), 1437–1457, doi:10.1177/2399654418794025.
- Raymond CM, Frantzeskaki N, Kabisch N, Berry P, Breil M, Nita MR, Geneletti D and Calfapietra C. (2017). A framework for assessing and implementing the co-benefits of nature-based solutions in urban areas. *Environmental Science & Policy*, 77, 15–24, doi:10.1016/j.envsci.2017.07.008.
- Reed J, Deakin L and Sunderland T. (2015). What are ‘Integrated Landscape Approaches’ and how effectively have they been implemented in the tropics: a systematic map protocol. *Environmental Evidence*, 4(1), 2, doi:10.1186/2047-2382-4-2.
- Reed J, Van Vianen J, Barlow J and Sunderland T. (2017). Have integrated landscape approaches reconciled societal and environmental issues in the tropics? *Land Use Policy*, 63, 481–492. doi:10.1016/j.landusepol.2017.02.021.
- Reed J, Ickowitz A, Chervier C, Djoudi H, Moombe K, Ros-Tonen M, Yanou M, Yuliani L and Sunderland T. (2020a). Integrated landscape approaches in the tropics: A brief stock-take. *Land Use Policy*, 99, 104822, doi: 10.1016/j.landusepol.2020.104822.
- Reed J, Ros-Tonen M and Sunderland T. (2020b). Operationalizing integrated landscape approaches in the tropics. Bogor, Indonesia: CIFOR.
- Reyes-García V, Fernández-Llamazares Á, Aumeeruddy-Thomas Y, Benyei P, Bussmann RW, Diamond SK, García-del-Amo D, Guadilla-Sáez S, Hanazaki N, Kosoy N, Lavidés M, Luz AC, McElwee P, Meretsky VJ, Newberry T, Molnár Z, Ruiz-Mallén I, Salpeteur M, Wyndham FS, Zorondo-Rodríguez F and Brondizio ES. (2021). Recognizing Indigenous peoples’ and local communities’ rights and agency in the post-2020 Biodiversity Agenda, *Ambio*, doi: 10.1007/s13280-021-01561-7.
- Ros-Tonen MAF, Reed J and Sunderland T. (2018). From Synergy to Complexity: The Trend Toward Integrated Value Chain and Landscape Governance. *Environmental Management*, 62(1), 1–14, doi:10.1007/s00267-018-1055-0.

- Sarmiento Barletti JP and Larson AM. (2019). The role of multi-stakeholder forums in subnational jurisdictions: Methods training manual and tools for in-depth field research. Bogor, Indonesia: CIFOR.
- Sayer J, Sunderland T, Ghazoul J, Pfund J-L, Sheil D, Meijaard E, Venter M, Boedhihartono AK, Day M, Garcia C, Van Oosten C and Buck LE. (2013). Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses. *Proceedings of the National Academy of Sciences*, 110(21), 8349, doi:10.1073/pnas.1210595110.
- Sayer JA, Margules C, Boedhihartono AK, Sunderland T, Langston JD, Reed J, Riggs R, Buck LE, Campbell BM, Kusters K, Elliott C, Minang PA, Dale A, Purnomo H, Stevenson JR, Gunarso P and Purnomo A. (2016). Measuring the effectiveness of landscape approaches to conservation and development. *Sustainability Science*, 12(3), 465–476, doi:10.1007/s11625-016-0415-z.
- Seddon N, Chausson A, Berry P, Girardin C, Smith A and Turner B. (2020). Understanding the value and limits of nature-based solutions to climate change and other global challenges, *Phil. Trans. R. Soc. B37520190120*, doi: 10.1098/rstb.2019.0120.
- Sewell A, Van der Esch S and Löwenhardt H. (2020). Goals and Commitments for the Restoration Decade: A global overview of countries' restoration commitments under the Rio Conventions and other pledges. PBL Netherlands Environmental Assessment Agency, The Hague.
- Scherr SJ, Shames S and Friedman R. (2013). 'Defining integrated landscape management for policy makers.' *Ecoagriculture Policy Focus* (10): 1–6.
- Shames S and Scherr SJ. (2020). Mobilizing Finance across Sectors and Projects to Achieve Sustainable Landscapes: Emerging Models. Washington, DC: EcoAgriculture Partners.
- Soanes M, Bahadur A, Shakya C, Smith B, Patel S, Rumbaitis del Rio C, Cogger T, Dinshaw A, Patel S, Huq S, Musa M, Rahman F, Gupta S, Dolcemascolo G and Mann T. (2021). Principles for locally led adaptation: A call to action. IIED, London.
- SourceUp (2021). Website for the IDH SourceUp initiative, accessed 19 July 2021, via [www.sourceup.org](http://www.sourceup.org).
- Thaxton M, Forster T, Hazlewood P, Mercado L, Neely C, Scherr S, Wertz L, Wood S and Zandri E. (2015). Landscape Partnerships for Sustainable Development: Achieving the SDGs through Integrated Landscape Management. Landscapes for People, Food and Nature initiative (LPFN).
- Tobin-de la Puente J and Mitchell AW. [eds.] (2021). *The Little Book of Investing in Nature*, Global Canopy: Oxford.
- UN-FSS (2021). UN Food Systems Summit - Discussion Starter Action Track 3: Boost Nature-Positive Food Production at Scale, accessed on 25 February 2021 via <https://www.un.org/en/food-systems-summit/action-tracks>.
- UN-Habitat (2019). *Urban-Rural Linkages: Guiding Principles. Framework for Action to Advance Integrated Territorial Development*, Nairobi.
- UNU-IAS (2018). Report from international Workshop on 'Mainstreaming Biodiversity in Production Landscapes: Integrated Approaches in Design and Implementation of National Biodiversity Strategies and Action Plans (NBSAPs)', United Nations University

- Institute for the Advanced Study of Sustainability (UNU-IAS), available via <https://collections.unu.edu/view/UNU:6532>.
- UNU-IAS and UT-IR3S (2018). Research Report on Development and Implementation of National Biodiversity Strategy and Action Plans (NBSAPs), United Nations University Institute for the Advanced Study of Sustainability, Tokyo. <https://collections.unu.edu/view/UNU:6609>.
- UNU-IAS (2019). The 'Kumamoto Report' on Landscape Approaches for the Post-2020 Global Biodiversity Framework, prepared by the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS), available via <https://satoyama-initiative.org/wp-content/uploads/2019/06/UNU-IAS-Landscape-Expert-Thematic-Workshop-Report-final-1.pdf>.
- UNU-IAS and IGES (2019). Understanding the multiple values associated with sustainable use in socio-ecological production landscapes and seascapes (Satoyama Initiative Thematic Review vol. 5), United Nations University Institute for the Advanced Study of Sustainability, Tokyo.
- Van Boven [ed.] (2020). Environmental assessment in landscape management. The Netherlands Commission for Environmental Assessment (NCEA) and Shared Resources Joint Solutions (SRJS), a strategic partnership between IUCN NL, WWF NL and the Netherlands Ministry of Foreign Affairs.
- Van der Horn S and Meijer J. (2015). The Landscape Approach. PBL Netherlands Environmental Assessment Agency, The Hague.
- Van Oorschot MMP, Kok MTJ and Van Tulder R. (2020). Business for biodiversity. Mobilising business towards net positive impact, PBL Netherlands Environmental Assessment Agency, The Hague.
- Van Oosten C, Uzamukunda A and Runhaar H. (2018). Strategies for achieving environmental policy integration at the landscape level. A framework illustrated with an analysis of landscape governance in Rwanda. *Environmental Science & Policy*, 83, 63–70, doi:10.1016/j.envsci.2018.02.002.
- Van Oosten C, Runhaar H and Arts B. (2021). Capable to govern landscape restoration? Exploring landscape governance capabilities, based on literature and stakeholder perceptions. *Land Use Policy*, 104, 104020, doi:10.1016/j.landusepol.2019.05.039.
- Vermunt DA, Verweij PA and Verburg RW. (2020). What Hampers Implementation of Integrated Landscape Approaches in Rural Landscapes? *Current Landscape Ecology Reports*, 5(4), 99–115, doi:10.1007/s40823-020-00057-6.
- Wiegant D, Peralvo M, Van Oel P and Dewulf A. (2020). Five scale challenges in Ecuadorian forest and landscape restoration governance. *Land Use Policy*, 96, 104686. doi:10.1016/j.landusepol.2020.104686.



**PBL Netherlands Environmental Assessment Agency**

Mailing address:  
PO Box 30314  
2500 GH The Hague  
The Netherlands

[www.pbl.nl/en](http://www.pbl.nl/en)  
[@leefomgeving](https://twitter.com/leefomgeving)

July 2021