

Strengthening NBSAPs through landscape approaches

Table of Contents

Summary	2
1. Introduction	3
Landscapes and seascapes	3
About landscape approaches	4
Landscape approaches, NBSAPs and the Global Biodiversity Framework	5
2. Operationalizing landscape approaches	5
Who can implement landscape approaches?	5
How to implement landscape approaches	6
3. Integrating landscape approaches into national biodiversity targets	9
Who to involve	9
GBF targets as a guide on applying landscape approaches to NBSAPs	10
Examples of landscape approaches contributing to GBF targets	19
4. Additional considerations	21
Where to focus landscape approaches	21
National Government support for implementation	21
Monitoring, review & reporting	21
Other policy and strategy at national level	22
Annex: additional resources	23
Bibliography	24

28 **Summary**

29 Landscape approaches (including seascape approaches) consider and integrate the multiple *uses* and the multiple
30 *users* of a landscape or seascape. These multiple uses and users are often difficult to reconcile, but attempting to
31 do so is more sustainable than working in silos. In the context of biodiversity conservation in national contexts,
32 landscape approaches can be applied directly at the local or landscape scale (covered in section 2); through
33 national biodiversity strategies and action plans (NBSAPs) (section 3); and through other mechanisms (section 4).

34
35 Landscape approaches can be applied directly in cases where national government is directly responsible for
36 management at the landscape level, for example in national parks. At subnational levels of government there is
37 likely to be an even wider variety of opportunities for such direct application. After identifying who to involve,
38 stakeholders and facilitators can convene and establish objectives, setting out a map or vision and planning
39 together with follow-up monitoring. NBSAPs can include guidelines such as those laid out in this section, for NBSAP
40 users working at the landscape level.

41
42 Landscape approaches can be applied indirectly by incorporating landscape approaches principles into biodiversity
43 strategy and planning at the national level. The Kunming-Montreal Global Biodiversity Framework, adopted in
44 December 2023, provides a guide for countries to set more-or-less standardized targets. Landscape approaches
45 can be incorporated into national targets to varying degrees depending on the local situations and the targets.
46 Section 3 provides suggestions for making each of the GBF targets more landscape approach oriented.

47
48 Beyond NBSAPs and in support of them, national governments can work directly with various stakeholders,
49 including subnational government who more typically work at the landscape level. A suggested precursor is to
50 identify which landscape(s) and which stakeholders to focus on for greatest effect. All significant successes and
51 failures of application of landscape approaches should be monitored as a means of improving, and national reports
52 to the CBD provide one important means to report these observations. Master plans and sector plans should also
53 be considered as potential conduits for integrating landscape approaches, considering their applicability to the
54 spectrum of land use activities and land users.

55

56

1. Introduction

57 The purpose of this manual is to introduce the concept of landscape approaches to national governments.
58 Although it is written from the point of view of biodiversity conservation, it is aimed at all the many sectors that
59 affect, and are affected by, conservation.

60 The manual consists of four sections:

61 **Section 1** provides context. It explains what is meant by landscapes and seascapes, and landscape approaches,
62 and how they are relevant to national biodiversity strategies and action plans (NBSAPs) and the Kunming-Montreal
63 Global Biodiversity Framework (GBF).

64 **Section 2** explains how to operationalize or implement landscape approaches. Landscape approaches are
65 implemented at the local level, which is usually beyond the remit of NBSAPs. However, there are cases in which
66 national governments work at the local level. In many other cases, as discussed in section 3, national governments
67 can enable and encourage landscape approaches. To do so, however, a basic understanding of the process of
68 implementing landscape approaches is necessary.

69 **Section 3** discusses how landscape approaches can be applied to the process of updating or developing NBSAPs,
70 using the targets of the GBF. While section 2 outlines how to “do” landscape approaches, section 3, shows how to
71 *enable* and *encourage* landscape approaches by integrating them into strategy at the national level.

72 **Section 4** discusses additional ways of enabling and encouraging the uptake of landscape approaches, beyond
73 NBSAPs, including how to be strategic about their application.

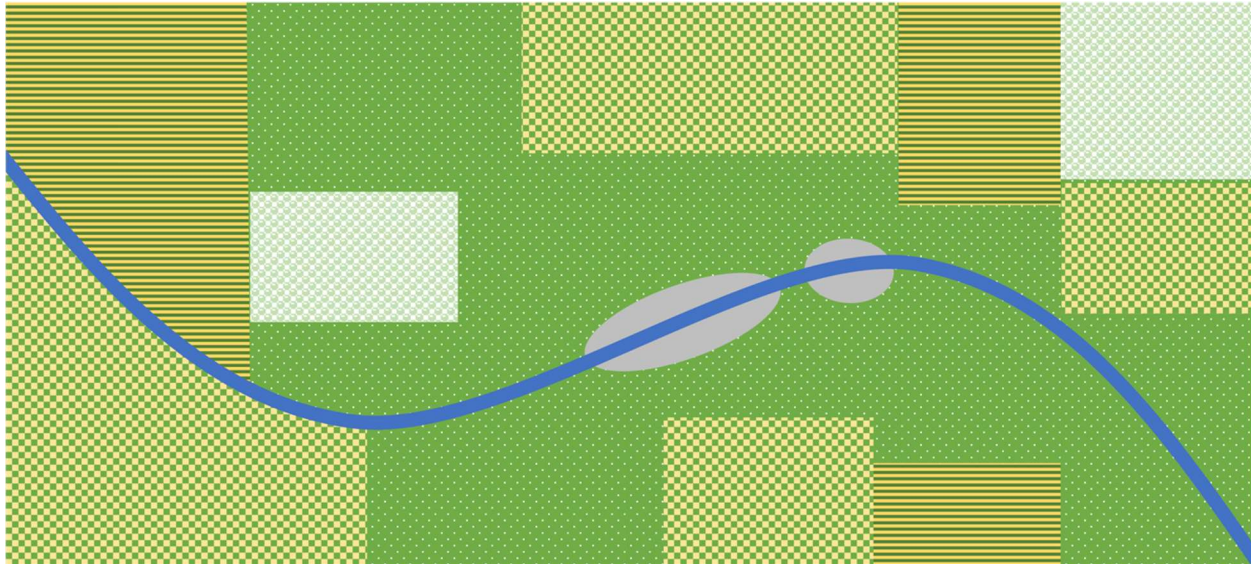
74 The manual is expected to remain useful for some time, but its release is timed to facilitate governments’ updating
75 or review of NBSAPs to align them with the GBF, in accordance with Decision 15/6 [1].

76

77 Landscapes and seascapes

78 A landscape or seascape is more of a concept than a physical space [2], and there are many ways to define them.
79 Here, we use the understanding that landscapes and seascapes are *multifunctional mosaics of ecosystems and land*
80 *and sea use* (see Figure 1) that are characterized by *the presence of multiple stakeholders and diverse human-*
81 *nature interactions*. The boundaries of a landscape or seascape can be determined by asking: “Is the area small
82 enough that all relevant stakeholders within it can come together to discuss its management? And is it large
83 enough to require some form of coordinated management?”

84



85
 86 *Figure 1. A stylized representation of a landscape, with different land-use types such as natural ecosystems, agriculture, forestry,*
 87 *settlements, and a waterway. Different land-use types typically have different people using them. However, within a land-use*
 88 *type there may also be different users, using the land for different purposes. The various elements of a seascape are less*
 89 *spatially explicit, but have similar characteristics in terms of users and use.*

90
 91 Diversity in a landscape or seascape depends both on biophysical factors (topography, substrate, vegetation,
 92 bathymetry etc.), and the influence of human habitation and use (current and historic) [3]. A landscape can consist,
 93 for example, of primary vegetation, secondary vegetation, crops, human settlements, and infrastructure. A
 94 seascape can consist, for example, of strictly protected areas, less strictly protected areas, aquaculture, and
 95 different forms of fishing. The size, quality, and connectivity of ecosystems in a landscape and/or seascape,
 96 determine their ecological integrity and their capacity to produce ecosystem services [4]. For example, croplands
 97 mostly produce food while natural grasslands may produce a broader spectrum of services including erosion
 98 control, flood retention and the provision of a diversity of species. Degraded cropland or grassland is generally less
 99 able to provide these services. For the sake of efficiency, the term “landscapes” is used here to refer to both
 100 landscapes and seascapes in most cases.

101
 102 **About landscape approaches**

103 The use of landscape approaches outside protected areas is fundamental to the attainment of the goals and
 104 targets of the GBF, and of its vision. Landscape approaches, which generally also apply to seascapes, can be
 105 thought of as the integration of developmental priorities and conservation priorities at the scale of the landscape,
 106 with the involvement of the stakeholders who use and manage the landscape [5]. Landscape approaches have
 107 become important as conservationists have begun to recognize the need to reconcile trade-offs between
 108 conservation and development [6]. Without landscape approaches, conservation outside protected areas is less
 109 likely. A relatively small proportion of the planet is formally protected, so achieving global conservation targets,
 110 such as target 3 of the GBF on protecting 30% of land and sea by 2030, requires conservation outside protected
 111 areas. That requires the buy-in of a diverse range of stakeholders.

112 Ideally, landscape approaches should be incorporated into a spatial plan. A spatial plan is a strategy for the
 113 development of the area, stating the policies, priorities, programmes and land allocations for implementation, and
 114 influencing the distribution of human settlements and activities¹. A spatial plan usually includes a map of the area,
 115 showing how different parts of the area are used, or the intention for their use, based on existing information. A
 116 very simple plan can be enough – at least to start with (more details in section 2.2).

¹ Definition: <https://inspire.ec.europa.eu/featureconcept/SpatialPlan>

117 The terms “landscape approach” and “ecosystem approach” are sometimes used interchangeably [5]. The
118 ecosystem approach, however, focuses mostly on managing entire ecosystems [7], while social and economic
119 aspects may be “relegated to the background” and tends not to address the critical aspect of managing conflicts
120 and trade-offs between stakeholders [6] [8], which requires careful negotiation. Multifunctional landscapes with
121 diverse stakeholders are complex and dynamic, so management needs to be adaptive and collaborative [9, 10]. A
122 “good” landscape approach can be regarded as one that manages this process with as little conflict as possible and
123 increases the integration of multiple uses of a landscape as much as possible.

124

125 Landscape approaches, NBSAPs and the Global Biodiversity Framework

126 Landscape approaches can be applied to national biodiversity strategy and planning to help achieve the goals and
127 targets of the GBF [11]. The core of the GBF is a set of targets that align with its goals, and with the objectives of
128 the CBD: to conserve biodiversity, and to ensure that its use is sustainable and its benefits are equitably shared.
129 Countries are expected to use the GBF as a guide for their own national biodiversity planning and target-setting
130 when they revise and update their NBSAPs. In so doing, they contribute to achieving the goals and targets of the
131 GBF. Some targets in the GBF already encourage landscape approaches. Even beyond these, however, national
132 governments can design national targets that integrate landscape approaches (see section 3 of this manual).
133 NBSAPs are, therefore, the ideal place for landscape approaches to enter the national planning process.

134

135 2. Operationalizing landscape approaches

136 Targets need to be set at different scales to integrate conservation and development agendas [12]. So, while
137 NBSAPs and other strategies at the national level are helpful to lay the ground, specific actions need to be taken, at
138 specific locations, by specific actors, at the landscape scale. As explained in section 1, landscapes are local features.
139 Landscape approaches are, therefore, applied at the local level, where it is feasible to directly involve the
140 stakeholders who manage the landscape. Often, national governments are not directly involved in local
141 implementation. However, at the national level they can enable or encourage the application of landscape
142 approaches at the local level. Their role as enablers is covered in section 3. Here in section 2, we discuss cases in
143 which national governments are directly involved in the application of landscape approaches.

144

145 Who can implement landscape approaches?

146

147 *Participants in the implementation of landscape approaches*

148 Government sectors involved in landscape management include those responsible for biodiversity conservation,
149 but also various others that may have an impact on biodiversity, as well as those that may be impacted by its
150 conservation. These sectors may be **public or private, national or local, formal, or informal**. Some may be
151 conservation oriented, while others may have a history of conflict with conservation, or no association with
152 conservation at all. They all have a part to play in operationalizing landscape approaches.

153 For example, **conservation** may be responsible for the management of protected areas and other areas managed
154 primarily for conservation, as well as “other effective area-based conservation measures” (OECMs), which are not
155 necessarily managed primarily for the sake of conservation even though they contribute to conservation. **Land-use**
156 **planning** plays a central role in determining and designing all aspects of landscapes use. **Development planning**
157 plays a similar central role to land-use planning, with less of a spatial focus. **Agriculture, aquaculture, fisheries,**
158 **and forestry** use disproportionately large areas of land or sea for critical production activities. **Infrastructure,**
159 **mining, and energy production** significantly alter parts of the landscape, as well as causing pollution. **Tourism**
160 benefits from pristine landscapes but may also impact them.

161 As indicated in CBD COP Decision 15/12 [13], **local and subnational governments** may have a particularly
162 important role to play in operationalizing landscape approaches because they operate at a level where landscape

163 approaches are most likely to be implemented. Local governments can also reach a range of local stakeholders,
164 further facilitating implementation at the landscape level. Many subnational governments have subnational and
165 local biodiversity strategies and action plans, which are sometimes included in, and can complement NBSAPs and
166 facilitate local implementation of national biodiversity strategies. National governments were invited to support
167 the development of local biodiversity strategies and action plans in paragraph 2 (b) of CBD COP Decision 15/12
168 [13].

169 **Civil society organizations** that represent the interests of stakeholder groups, especially those that have
170 historically been under-represented, such as **indigenous peoples and local communities** (IPLCs), can contribute by
171 mobilizing stakeholders at the landscape scale to take part in landscape approach processes.

172

173 *Coordinators of the implementation of landscape approaches*

174 Aside from those who *should* be involved in implementing landscape approaches, there are also those who can
175 *support and facilitate* in the process. Experts on the application of landscape approaches may already be working
176 in government, or they may need to be consulted on a temporary or permanent basis. For example, experts in the
177 **facilitation** of meetings and negotiations can help to ensure a smooth-running and fair discussion. Experts in
178 **ecology, conservation biology and other natural sciences** can provide expertise about the natural elements of the
179 landscape. Experts in **geography, public health, and other areas of social science** can provide expertise about the
180 socio-cultural elements of the landscape. Experts in **finance and economics** can foster an understanding of
181 financial risks and benefits of different land-use decisions. Others may be identified according to the context .

182

183 How to implement landscape approaches

184 This section outlines elements to consider when implementing landscape approaches. They are presented in a
185 sequence in which they could be applied, but the order may differ in different situations and often it will be
186 important to iterate between the elements. More detailed guidelines are provided by initiatives like the Terraso
187 Platform, which provides the various stakeholders in a landscape with software, data tools, and the access to
188 financial resources to find common ground [14].

189

Identify the landscape and its stakeholders

Identification of a landscape and identification of its stakeholders are interlinked, and so they are part of the same exercise.

The boundaries of the landscape will determine who to include. If the area requires a group that is too large or too complex to convene, it may be that the area is too large to be considered as a single landscape. In that case, the boundaries may need to be reconsidered before landscape approaches are applied.

Identify the stakeholders in the landscape and identify representatives with whom to engage. Be sure to include all relevant stakeholder groups. Invite stakeholder representatives to a scoping meeting and explain that their participation will enable them to air their views and express their needs.

Things to consider:

- Consider using local media and other local stakeholder networks (viz., farmers or other stakeholder networks) to invite stakeholders to take part in the process.
- Gather information about indigenous and local knowledge on management and resource utilization, respecting the rights of indigenous peoples and local communities [11].

Convene and establish objectives

Implementing landscape approaches with stakeholders involves identifying issues to be resolved in the landscape, noting trade-offs

Things to consider:

and synergies between different land uses, and then working to minimize tradeoffs and maximize synergies through deliberation and strategizing together. The goal is to get as close as possible to *defined, agreed and shared management objectives* [5, 12]. Trust is essential and requires openly sharing objectives and values. Start by enlisting the support of local facilitators who can help to ensure smooth discussions.

When everyone is together, ask different stakeholders about their objectives, concerns, aspirations, and incentives for cooperation. Identify knowledge inputs and expertise, giving sufficient attention to indigenous and local knowledge [15]. Clarify responsibilities and rights, including land rights [5]. Agree on a legitimate system that can be consulted in case arbitration is required. Try to secure the commitment of all to work together to plan and manage the landscape.

Consider starting with simple, attainable goals for cooperation. A visioning exercise can enable different stakeholders to describe their future desired state of their landscape. Discussing and comparing these individual visions can lead into discussing and describing a common future vision for the landscape.

Depending on the outcome of the visioning exercise, a next and more ambitious step could be to produce a simple spatial plan. The spatial plan would need to acknowledge conflicting ideas of how the landscape is to be used.

- The challenging task of minimizing trade-offs can include simple actions like identifying areas for development, or means of production, that have even a slightly lighter impact on biodiversity.
- Be clear about rights and responsibilities Error! Bookmark not defined.
- Agree on the boundaries of the area, to the extent possible [16]. Take care to manage power relations. Community representatives, for example, may be at a disadvantage among more experienced negotiators [17]

Map

Compile a map of the landscape, indicating different forms of land use, and which stakeholders are active in each. The complexity of maps depends on information and tools available, but simpler is generally better. The scale of the map should match its purpose, but to be useful it should be at a resolution fine enough to capture all the land uses that are represented. A draft map can be prepared before convening stakeholders, and then refined together. To integrate conservation considerations, start with a map of ecosystems and land cover, if available. Maps of land cover and/or land use may also be found in, for example, municipal master plans, or in the plans of other sectors like agriculture. Where possible, it can be helpful to use existing administrative and/or ecological boundaries. As described in section 1, the area needs to be an appropriate size for applying a landscape approach. If no maps are available at the local level, try starting with global scale data such as the land cover maps from ESA [18], protected areas from the WDPA [19], or various maps available from UN Biodiversity Lab [20]. These maps are at a coarse scale, so they may be of limited use, but they could help to get started.

Things to consider:

- A geographic information system (GIS) is the most precise way to map an area. Consider options like the free Q-GIS [21], or more advanced paid versions like ArcGIS [22]. Bear in mind that some land use data are likely to be more accurate than other data.

Plan

The map discussed above can be adapted to indicate what is intended for the landscape in future. For example, if stakeholders agree to expand a protected area, it would indicate the new boundaries of that area. This can form the basis of a basic management plan, which also states what will be done by different stakeholders in the landscape, and by when. For example, it may state that the protected area mentioned here will be managed by the local government in partnership with an NGO, with concessions to IPLCs and a tour operating company. It can help to incorporate a spatial plan into the management plan to make it easier to visualize all these roles. Planning exercises, especially spatial planning, can be time-consuming and challenging [23]. If it is not possible, to compile a detailed map, use a simple one accompanied by a management plan so that the landscape approach process is not hindered. Review and modify draft spatial plans with stakeholders.

Develop a budget and agree on who is responsible for funding.

Where relevant, circulate the plan for public consultation, and then implement the plan.

For more detailed guidance see, for example, the "LandScale" initiative, which has developed a framework for integrated impact monitoring at landscape scale, including for biodiversity [12, 24].

Things to consider:

- Be aware of the overarching legislation pertaining to land use in your country or area, systems of taxation, policies that support or threaten biodiversity (including subsidies), and support mechanisms.
- As much as possible, adopt participatory approaches when developing plans. Team building exercises can foster cooperation between stakeholders.

Monitor

Identify and agree on metrics for measuring success. Be adaptive based on outcomes and changing circumstances. Indicators of progress can be difficult to identify. However, some already exist including in the monitoring framework for the Kunming-Montreal Global Biodiversity Framework (GBF) ([CBD COP Decision 15/5](#)) [25]. These include:

- Level of stakeholder representation
- Existence of a biodiversity-inclusive spatial plan [3]
- Proportion of agricultural area under productive and sustainable agriculture [25].
- Progress towards sustainable forest management [25].
- Area of the landscape with continuous vegetative cover [26].
- Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26].

In other cases, a specific landscape may need specific indicators to be developed – ideally with the involvement of all stakeholders. For example, a mosaic of protected areas and farmland may consider the level of human-animal conflict as an indicator of the success of a landscape approach.

Use the monitoring process to inform the next round of implementation of landscape approaches, building on the lessons and mistakes of the previous round.

Things to consider:

- Involve all stakeholders as much as possible in the process of monitoring [16], including data collection. This fosters ownership of the process and builds everyone's capacity to manage the landscape in an integrated way, thus supporting strong governance [27].
- Ensure that stakeholders have access to a fair justice system in case of dispute or disagreement [6].

3. Integrating landscape approaches into national biodiversity targets

With the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF), Parties to the Convention on Biological Diversity are requested to update or revise their NBSAPs and their national targets in line with the goals and targets of this new framework. This request from the Conference of the Parties provides an opportunity for the integration of landscape approaches into national biodiversity planning and implementation. While landscape approaches are implemented at the local level, NBSAPs and national targets can provide a framework for biodiversity-friendly land management for all of government and the whole of society, including the local level. Annex I of CBD COP Decision 15/6 [1] provides “guidance for revising or updating NBSAPs to align with the GBF, including a template in which countries can describe how landscape approaches have been used to align national targets with those of the GBF.

Who to involve

By involving stakeholder groups in the process of formulating NBSAP targets, NBSAPs can be a vehicle to stimulate action at the landscape level. At the national level it is usually impractical to involve stakeholders representing individual landscapes, simply because there are too many landscapes and too many stakeholders. However, stakeholder groups may be represented at the national level, where they can help to convey the general concerns common to those groups of stakeholders. With broad stakeholder participation and buy-in, both national and local objectives are likely to be more attainable and sustainable.

Stakeholder representatives in this process may include:

- Government sectors that have an impact on the environment such as agriculture, fisheries, forestry, infrastructure, energy, etc.
- Government and other sectors that benefit from conserving biodiversity, such as health departments, disaster risk planning, culture, etc.
- Private sector representation from sectors such as agriculture, forestry, aquaculture, fisheries, financial institutions, mining, local government, energy, transport, etc.
- Civil society organizations that represent the interests of stakeholder groups, especially those that are known to be under-represented. These may include indigenous peoples and local communities, women, farmers, workers’ unions, youth, etc.

Experts may be necessary to be brought in to facilitate the development of the NBSAP, including those with expertise on landscape approaches or related skills like working with diverse stakeholders. Such experts may already be working in government, or they may need to be brought in from outside on a temporary or permanent basis. Depending on the relevant target, they may include:

- Professional facilitators
- Ecologists, conservation biologists and other natural scientists
- Spatial planners, conservation planners
- Geographers, public health experts, and other social scientists
- Subnational government representatives, preferably at a level between local and national, can bridge national government and local governments

As national governments regularly update their NBSAPs, stakeholders across government and beyond government need to be involved in the updating process with sufficient time to integrate their inputs. Stakeholders’ input could help to finetune the NBSAP or even steer it in a better direction and can instill some sense of ownership of the

234 process among them. Stakeholders could also be invited to provide their views on a draft document of NBSAP
 235 targets. A written review can be conducted by a larger number of potential contributors.

236

237 **GBF targets as a guide on applying landscape approaches to NBSAPs**

238 Section 2 explains how landscape approaches are applied in practice. But they are always applied at the landscape
 239 (local) level. NBSAPs function at the national level and lay out an overarching strategy that can guide
 240 implementation at the local level. NBSAP targets can be designed so that they encourage landscape approaches at
 241 the local level.

242 Going another level up, the GBF and its 23 targets provide a framework for national target setting in NBSAPs.
 243 Here, we explain how landscape approaches can be applied to individual targets in the NBSAP and which indicators
 244 may be used to measure progress. Indicators may need to be used in combination to indicate whether landscape
 245 approaches have contributed toward a target, and the monitoring framework for the GBF [25] includes some such
 246 indicators that may be useful. Other indicators are borrowed from other sources. The relevance of each target to
 247 application of landscape approaches is indicated by the background color,
 248 with the darkest green being the most relevant.

249

250

More relevant → **Less relevant**

Target 1	Landscape approaches	Possible landscape-related (?) indicators
Ensure that all areas are under participatory integrated biodiversity inclusive spatial planning and/or effective management processes addressing land and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.	GBF target 1 inherently acknowledges the need for landscape approaches. It can be applied more-or-less as it is at the national level in the NBSAP.	<ul style="list-style-type: none"> Number of local authorities applying landscape approaches in a country Percent of land and seas covered by biodiversity-inclusive spatial plans [25] Proportion of agricultural area under productive and sustainable agriculture [25] Progress towards sustainable forest management [25] Number of integrated landscape initiatives [26] Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]

Target 2	Landscape approaches	Possible indicators
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<p>Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.</p>	<p>Actions toward GBF target 2 can integrate landscape approaches by setting targets of restorative land (and sea) use, such as erosion control in agriculture and soil amelioration where industry and mining have occurred.</p>	<p>Percent of land and seas covered by biodiversity-inclusive spatial plan [25] Progress towards sustainable forest management [25] Number of integrated landscape initiatives [25] Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26] Area of landscapes with continuous vegetative cover [26]</p>
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Target 3	Landscape approaches	Possible indicators
<p>Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.</p>	<p>Landscape approaches can be applied to GBF target 3 if protected areas are designated, and OECMs determined, with the agreement and commitment of those involved in managing those areas. Building capacities and creating opportunities for a wide set of stakeholders is central to applying landscape approaches to this target.</p>	<p>Number of local authorities applying landscape approaches in a country Proportion of agricultural area under productive and sustainable agriculture [25] Progress towards sustainable forest management [25] Number of integrated landscape initiatives [26] Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26] Area of landscapes with continuous vegetative cover [26]</p>

Target 4	Landscape approaches	Possible indicators
<p>Ensure urgent management actions, to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between</p>	<p>Human-wildlife conflict is a part of GBF target 4 that is particularly relevant to landscape approaches, for example through ongoing consultation with those who interact most with wildlife. Raising of awareness about endangered species occurring in parts of the landscape</p>	<p>Percent of land and seas covered by biodiversity-inclusive spatial plans [25] Proportion of agricultural area under productive and sustainable agriculture [25]</p>

populations of native, wild and domesticated species to maintain their adaptive potential, including through in situ and ex situ conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimize human-wildlife conflict for coexistence.

where conservation is not a priority and reducing adverse impacts on the most threatened species is also relevant.

Progress towards sustainable forest management [25]
 Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 5

Landscape approaches

Possible indicators

Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimizing impacts on non-target species and ecosystems, and reducing the risk of pathogen spill-over, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities.

As target 5 of the GBF implies human use of the landscape other than conservation, it already encourages landscape approaches if applied to various parts of the landscape and not only conserved areas; and if applied to various users of the landscape.

Percentage of the population in traditional occupations [25]
 Proportion of agricultural area under productive and sustainable agriculture [25]
 Progress towards sustainable forest management [25]
 Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]

Target 6

Landscape approaches

Possible indicators

Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 percent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands.

Target 6 of the GBF incorporates landscape approaches if it acknowledges the role of multiple users of the landscape, and their potential role in reducing the introduction and spread of invasive species, for example in the eradication of invasive species in agriculture and aquaculture.

Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Percentage of the population in traditional occupations [25]
 Proportion of agricultural area under productive and sustainable agriculture [25]
 Progress towards sustainable forest management [25]
 Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]
 National policy support for integrated landscape management [26]

Target 7

Landscape approaches

Possible indicators

Reduce pollution risks and the negative impact of pollution from all sources, by 2030, to levels that are not harmful to

Pollution is caused by various land uses other than conservation, so target 7 of the GBF could reflect the

Percentage of the population in traditional occupations [25]

biodiversity and ecosystem functions and services, considering cumulative effects, including: reducing excess nutrients lost to the environment by at least half including through more efficient nutrient cycling and use; reducing the overall risk from pesticides and highly hazardous chemicals by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating plastic pollution.

need to reduce pollution by different forms of land use. At the same time, as stated in this target, this needs to take into account food security and livelihoods, through acceptable levels of, for example, chemicals required for agriculture, aquaculture and forestry and waste management.

Proportion of agricultural area under productive and sustainable agriculture [25]
 Progress towards sustainable forest management [25]
 Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 8

Landscape approaches

Possible indicators

Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity.

Climate change mitigation, adaptation, and risk reduction can be applied by almost all land and sea users to almost all aspects of land and sea use. Target 8 is thus relevant across sectors, and can borrow from existing climate change strategies. To contribute to GBF target 8, these targets need to explicitly consider negative impacts on biodiversity.

Level of cross-sector involvement in compiling an NBSAP
 Number of local authorities applying landscape approaches in a country
 Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Number of integrated landscape initiatives [26]
 Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]

Target 9

Landscape approaches

Possible indicators

Ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and those most dependent on biodiversity, including through sustainable biodiversity-based activities, products and services that enhance biodiversity, and protecting and encouraging customary sustainable use by indigenous peoples and local communities.

Target 9 reflects landscape approaches if it acknowledges and involve all relevant stakeholders impacted by, or impacting, the sustainable use of wild species. Traditional practices of indigenous peoples and local communities are particularly relevant due to the close relationship between indigenous peoples and local communities, and wild species.

Level of cross-sector involvement in compiling an NBSAP
 Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Percentage of the population in traditional occupations [25]
 Progress towards sustainable forest management [25]
 Number of integrated landscape initiatives [26]
 National policy support for integrated landscape management [26]

<p>Target 10</p> <p>Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches contributing to the resilience and long-term efficiency and productivity of these production systems and to food security, conserving and restoring biodiversity and maintaining nature's contributions to people, including ecosystem functions and services.</p>	<p>Landscape approaches</p> <p>Due to its focus on sustainable agriculture, aquaculture, fisheries or forestry, target 10 is inherently landscape or seascape-oriented as long as the stakeholders who manage these areas consulted and involved.</p>	<p>Possible indicators</p> <p>Level of cross-sector involvement in compiling an NBSAP</p> <p>Percent of land and seas covered by biodiversity-inclusive spatial plans [25]</p> <p>Proportion of agricultural area under productive and sustainable agriculture [25]</p> <p>Progress towards sustainable forest management [25]</p> <p>Number of integrated landscape initiatives [26]</p> <p>Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]</p> <p>National policy support for integrated landscape management [26]</p>
<p>Target 11</p> <p>Restore, maintain and enhance nature's contributions to people, including ecosystem functions and services, such as regulation of air, water, and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and ecosystem-based approaches for the benefit of all people and nature.</p>	<p>Landscape approaches</p> <p>Almost all land and sea users in almost all types of land and sea use, benefit from ecosystem services. Landscape approaches are therefore inherently relevant to target 11 whenever the stakeholders who manage these areas are involved in, and benefit from, the restoring, maintaining, and enhancing of ecosystem services.</p>	<p>Possible indicators</p> <p>Percent of land and seas covered by biodiversity-inclusive spatial plans [25]</p> <p>Proportion of agricultural area under productive and sustainable agriculture [25]</p> <p>Progress towards sustainable forest management [25]</p> <p>Proportion of agricultural area managed with climate-, water- and biodiversity-friendly practices [26]</p> <p>Area of landscapes with continuous vegetative cover [26]</p> <p>Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]</p>
<p>Target 12</p> <p>Significantly increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated</p>	<p>Landscape approaches</p> <p>Cities are landscapes, so target 12 has landscape approaches built into it to some extent. Various landowners, including city governments and large</p>	<p>Possible indicators</p> <p>Number of local authorities applying landscape approaches in a country</p>

areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature and contributing to inclusive and sustainable urbanization and the provision of ecosystem functions and services.

corporations, can be involved in creating, improving, and promoting access to green and blue spaces in urban and densely populated areas. Special access rights for local stakeholders can be an important to foster stewardship.

Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Area of landscapes with continuous vegetative cover [26]
 National policy support for integrated landscape management [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 13

Landscape approaches

Possible indicators

Take effective legal, policy, administrative and capacity-building measures at all levels, as appropriate, to ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources and from digital sequence information on genetic resources, as well as traditional knowledge associated with genetic resources, and facilitating appropriate access to genetic resources, and by 2030 facilitating a significant increase of the benefits shared, in accordance with applicable international access and benefit-sharing instruments.

Facilitating access to genetic resources and ensuring the fair and equitable sharing of benefits arising from the use of genetic resources, and as relevant, of associated traditional knowledge, requires multi-stakeholder involvement.

Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Percentage of the population in traditional occupations [25]
 Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25]
 Number of integrated landscape initiatives [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 14

Landscape approaches

Possible indicators

Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of this framework.

Target 14 reflects landscape approaches if the integration of biodiversity values into policies, assessment, planning, and development acknowledges and involves diverse stakeholders and considers trade-offs with other key development goals.

Level of cross-sector involvement in compiling an NBSAP
 Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25]
 Number of integrated landscape initiatives [26]
 National policy support for integrated landscape management [26]

Target 15	Landscape approaches	Possible indicators
<p>Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions: (a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains and portfolios; (b) Provide information needed to consumers to promote sustainable consumption patterns; (c) Report on compliance with access and benefit-sharing regulations and measures, as applicable; in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.</p>	<p>Business is a broad term that can reflect a wide diversity of landscape uses, from small to large and from agricultural/aquacultural to industrial to financial. Many are a significant part of the landscape. Target 15 reflects landscape approaches if it considers both the impacts and the benefits of business on the full range of landscape users.</p>	<p>Level of cross-sector involvement in compiling an NBSAP Percent of land and seas covered by biodiversity-inclusive spatial plans [25] Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25] Number of integrated landscape initiatives [26] National policy support for integrated landscape management [26]</p>

Target 16	Landscape approaches	Possible indicators
<p>Ensure that people are encouraged and enabled to make sustainable consumption choices including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, halve global food waste, significantly reduce overconsumption and substantially reduce waste generation, in order for all people to live well in harmony with Mother Earth.</p>	<p>Target 16 addresses ecological footprint at a fairly global level, but landscape approaches can contribute collectively when the target includes, for example, standards for sustainable production practices such as certification of sustainable production, providing sustainable options for consumers.</p>	<p>Level of cross-sector involvement in compiling an NBSAP Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25] Number of integrated landscape initiatives [26] National policy support for integrated landscape management [26]</p>

Target 17	Landscape approaches	Possible indicators
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Establish, strengthen capacity for, and implement in all countries biosafety measures as set out in Article 8(g) of the Convention on Biological Diversity and measures for the handling of biotechnology and distribution of its benefits as set out in Article 19 of the Convention.	Facilitating access to genetic resources and ensuring the fair and equitable sharing of benefits arising from the use of genetic resources, and as relevant, of associated traditional knowledge, requires multi-stakeholder involvement.	Proportion of agricultural area under productive and sustainable agriculture [25] Progress towards sustainable forest management [25] Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25] Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]
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Target 18	Landscape approaches	Possible indicators
Identify by 2025, and eliminate, phase out or reform incentives, including subsidies harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least 500 billion United States dollars per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.	Target 18 can encourage rational and safe use of chemicals in production activities, and incentive policies and activities for various sectors that will reduce impact on ecosystems and biodiversity.	Level of cross-sector involvement in compiling an NBSAP Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25] Number of integrated landscape initiatives [26] National policy support for integrated landscape management [26]

Target 19²	Landscape approaches	Possible indicators
Substantially and progressively increase the level of financial resources from all sources, in an effective, timely and easily accessible manner, including domestic, international, public and private resources, in accordance with Article 20 of the Convention, to implement national biodiversity strategies and action plans, by 2030 mobilizing at least 200 billion United States dollars per year.	Obligate environmental safeguards policies, compensatory mechanisms and penalties in case of adverse events to people and nature, systems of fees to access land/seascapes and use them for commercial activities	Level of cross-sector involvement in compiling an NBSAP Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25] Number of integrated landscape initiatives [26] National policy support for integrated landscape management [26]

Target 20	Landscape approaches	Possible indicators
Strengthen capacity-building and development, access to and transfer of technology, and promote development	Target 20 reflects landscape approaches if it ensures that relevant knowledge, including the traditional	Level of cross-sector involvement in compiling an NBSAP

² Target 19 is particularly lengthy. Please see the GBF for its full text.

of and access to innovation and technical and scientific cooperation, including through South- South, North-South and triangular cooperation, to meet the needs for effective implementation, particularly in developing countries, fostering joint technology development and joint scientific research programmes for the conservation and sustainable use of biodiversity and strengthening scientific research and monitoring capacities, commensurate with the ambition of the goals and targets of the framework.

knowledge, innovations and practices of indigenous peoples and local communities, guides decision-making for the effective management of biodiversity, enabling monitoring, and by promoting awareness, education, and research.

Percentage of the population in traditional occupations [25]
 Number of companies reporting on disclosures of risks, dependencies and impacts biodiversity [25]
 National policy support for integrated landscape management [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 21

Ensure that the best available data, information and knowledge, are accessible to decision makers, practitioners and the public to guide effective and equitable governance, integrated and participatory management of biodiversity, and to strengthen communication, awareness-raising, education, monitoring, research and knowledge management and, also in this context, traditional knowledge, innovations, practices and technologies of indigenous peoples and local communities should only be accessed with their free, prior and informed consent, in accordance with national legislation

Landscape approaches

Establish freely accessible clearing house mechanisms available for decision makers at multiple levels, that integrate data from different sectors.

Possible indicators

Number of local authorities applying landscape approaches in a country
 Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Percentage of the population in traditional occupations [25]
 National policy support for integrated landscape management [26]
 Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 22

Ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders.

Landscape approaches

Landscape approaches, by definition, align with this target. Any application of this target is likely to promote the inclusion of indigenous peoples and local communities, recognizing their crucial role in landscape management.

Possible indicators

Number of local authorities applying landscape approaches in a country
 Percent of land and seas covered by biodiversity-inclusive spatial plans [25]
 Percentage of the population in traditional occupations [25]
 National policy support for integrated landscape management [26]

Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]

Target 23	Landscape approaches	Possible indicators
<p>Ensure gender equality in the implementation of the framework through a gender-responsive approach where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity.</p>	<p>Landscape approaches, by definition, align with this target. Any application of this target is likely to promote the inclusion of women and girls, recognizing their crucial role in landscape management.</p>	<p>Percentage of the population, across genders, in traditional occupations [25]</p> <p>Extent to which education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in national education policies, curricula, teacher education and student assessments [25]</p> <p>Percentage improvement in the multiple dimensions of human well-being of households within a landscape [26]</p>

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Examples of landscape approaches contributing to GBF targets

The basic principles of landscape approaches, as outlined in section 1, are straightforward and universal. However, specific circumstances can vary enormously and therefore the means of formulating national targets with landscape approaches in mind can differ greatly from country to country, and within countries. The following diverse examples show how landscape-scale initiatives can address the GBF targets through landscape approaches. In each case, the relevant GBF targets are indicated. Applying landscape approaches in the formulation of NBSAP targets can help to enable local initiatives like these.

Example	GBF Targets
<p>Enabling community-led landscape initiatives in Kenya</p> <p>Policy information often remains within government circles. In Kenya an initiative was launched to involve communities in the policy development and review process. The Nature Conservancy (TNC) and Kenya Wildlife Conservancies Association (KWCA) implemented the Community Conservancy Policy Support and Implementation Program to support communities’ and landowners’ participation in national policy review processes to enable better access to policy information and incentives. The program operated across 12 regional wildlife conservancies associations, representing private and community-based conservancies. The program covered land and resource policy, community governance systems, conservation incentives and inclusion of women and youths for more equitable distribution of conservancy benefits [28].</p>	
<p>Species conservation in Japan [29]</p> <p><i>Sasa palmata</i> is a plant that grows naturally in the mountainous northern part of Kyoto City in Japan. Used to wrap traditional confections or make good luck charms, it has</p>	

long been a part of Kyoto culture. The population is in decline due to feeding by deer as well as a shortage of workers engaged in forest management. A project by the City of Kyoto aims to restore populations of *S. palmata*, to secure forest workers, and to promote traditional techniques and distribution of *S. palmata* to revitalize local culture and industry, involving local residents. An existing fenced area is being expanded to protect *S. palmata* from deer grazing, while young forest workers are being recruited to resurrect traditional techniques through workshops. Public awareness for a sustainable mechanism to support these activities is being encouraged by involving the business sector and urban residents.

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Integrated development and livelihood promotion in India [30]

The Integrated Basin Development and Livelihood Promotion (IBDLP) Programme was initiated by the subnational Government of Meghalaya in India to institutionalize ecologically sustainable and inclusive development in Meghalaya. Involving all departments of the subnational Government, the program reached out to support citizens in any of eleven identified livelihood sectors – agriculture, aquaculture, apiculture, livestock, sericulture, water, rural energy, tourism, horticulture, forestry and plantation crops, and services / non-farm sector. They engaged with communities to formulate development interventions, documenting traditional knowledge to juxtapose it with modern knowledge to strengthen livelihood enterprise decisions. To address the common requirements of sectors, the implementation of the IBDLP was based on the four pillars of knowledge management, natural resource management, entrepreneurship development, and good governance, and aims to instil an entrepreneurial spirit including through the empowerment of women.

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Biodiversity conservation and indigenous knowledge in Panama [31]

The community of Usdub in Gunayala, Panama, has a population of approximately 2,500 people with limited monthly income, who subsist on fishing and agriculture. The local administration is under traditional authority that manages community resources with support from other local institutions, including women and youth groups. The area is at risk of losing agricultural biodiversity and degradation of ecosystems. To simultaneously preserve biodiversity and indigenous knowledge, the Foundation for the Promotion the Indigenous Knowledge (FPCI) gathered indigenous experts on agricultural biodiversity and inventoried and cultivated native seeds in danger of local extinction as well as producing a 10-year management plan for agricultural biodiversity and ecosystems. This was done in cooperation with community authorities and institutions and governmental institutions.

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Fisheries, offshore oil, and ecosystems in Norway [8]

In a study of conflicting sea use between fisheries and oil companies, researchers found that in Norway, these two industries have learned to coexist through “decades of conflict and dialogue between the industries, their associations, and the related government agencies and research institutions”. By engaging around use of the seascape, they have learned to cooperate. Their cooperation has implications for the ecosystems affected by both industries, because “the industries have to consider each other’s needs, because conflicts and clarification of differences tend to raise government environmental standards and requirements, and because these processes promote knowledge generation, technology development, and the search for more sustainable solutions.”

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4. Additional considerations

Where to focus landscape approaches

All countries consist mostly of multifunctional landscapes, and their coastal waters consist of multifunctional seascesapes. That's too much for a government to manage, so landscape approaches cannot be applied everywhere, immediately, and it is necessary to prioritize. Experts, in the relevant fields, as outlined in section 3, can be approached to help with the prioritization process. Here are two ways to prioritize:

- Identify biodiversity priority areas that are under threat from land-use change or other drivers of biodiversity loss. In many cases such areas are already known, or there may be experts or organizations that are able to provide this information. Land-use planners, especially conservation planners, could be engaged to assist in identifying them.
- Identify areas where landscape approaches are already being applied to some extent. These may not be the most important areas for biodiversity but, where landscape approaches arise spontaneously, they may require only a small amount of support to help them succeed. Landscape approaches that arise spontaneously are also more likely to be adapted to meet local needs and priorities.

If your country has a national-level biodiversity or ecosystem assessment, you may already know where biodiversity priority areas are and where gaps in information exist. If not, it is advised to plan a biodiversity assessment [29] for the future. Several initiatives have also identified international biodiversity priority areas worldwide, including key biodiversity areas (KBAs) [30], indigenous and community conserved areas (ICCAs) [31], Ramsar wetland sites [32], natural world heritage sites [33], and the red list of ecosystems [34].

National Government support for implementation

In addition to introducing policy and strategy at the national level, as outlined in section 3, national governments may be able to allocate some time toward working directly with local proponents of landscape approaches, who are trying to facilitate their application at the local level. National governments may, for example, be able to provide information to local proponents on how to proceed with landscape approaches. Or they may be able to put different champions of landscape approaches, from different parts of a country, in contact with one another to share lessons and even work together. Alternatively, or in addition, they may want to invite local proponents to the national-level events described in section 3. National government representatives may also be able to participate in local-level meetings on applying landscape approaches.

Recognition of the efforts of local proponents of landscape approaches can encourage them to continue and to expand their efforts and can serve as a model for others. This might be achieved by sponsoring the attendance of individuals to national-level meetings on biodiversity planning, and/or by presenting an award of some kind, for example a certificate of recognition of efforts.

National governments can also conduct workshops specifically to build the capacity of local proponents to apply landscape approaches. Depending on the national and local context, different forms of outreach could be used to raise awareness about landscape approaches, and experts could be invited to take part or to facilitate the sessions. This could take the form of a communication, education and public awareness (CEPA) plan such as those promoted by the Ramsar Convention [35], including relevant targets and actions for integration into the NBSAP.

Monitoring, review & reporting

Even when landscape approaches are enabled by national governments, those governments may not be aware of their existence. A system of monitoring can keep track of where landscape approaches are being applied so that efforts can be supported, lessons can be shared, and successes can be replicated.

Monitoring needs to happen both at the national level to provide an overview, and at the local level where individual landscape approaches can be examined in some detail. At the local (landscape) level especially, it is important and helpful to involve stakeholders in monitoring Error! Bookmark not defined.. A participatory approach to

307 monitoring and evaluation, by which stakeholders measure progress, identify gaps and report the monitoring
308 results back finally to national governments, can help to build the capacity of stakeholders through information
309 exchange and awareness raising.

310 Comparing outcomes over time can provide clues on how to adapt and improve landscape approaches. The use of
311 indicators can also provide support for evidence-based policymaking and implementation [35]. There is no single
312 monitoring approach that will work in all situations, but several globally accepted frameworks and indicators are
313 available. A “Monitoring framework for the Kunming-Montreal Global Biodiversity Framework” [25] was adopted
314 by the fifteenth meeting of the Conference of the Parties ([decision 15/5](#)). Other useful indicators may be found in
315 the Livelihood Vulnerability Index [36], the Social Vulnerability Index [37], and planetary boundary indicators [38].
316 It may be possible to adapt or downscale some of these indicators to suit local circumstances [39]. National
317 governments can also survey stakeholders’ opinions on a regular basis, at a frequency that is practical considering
318 their capacity.

319 National governments can report their observations of the successes and failures of landscape approaches back to
320 stakeholders at the national level and the landscape level, feeding into the processes outlined throughout sections
321 2 and 3. Part of this reporting process should ideally be a summary of lessons learned, and progress, in the national
322 reports [40] that all countries are asked to submit to the CBD. Once several countries begin to report on landscape
323 approaches, comparison and sharing of lessons will become possible at the international level, which will enable
324 further progress in designing better landscape approaches.

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326 Other policy and strategy at national level

327 Further to decision 15/6 (Mechanisms for planning, monitoring, reporting and review) [1], NBSAPs should be seen
328 as “whole of government” strategies, because they require involvement and action by various sectors. However,
329 national and local governments also often have broader master plans, to address various aspects of governance.
330 Integrating key messages from the NBSAP into broader master plans can be an effective way of mainstreaming
331 conservation messages [41]. Integrating landscape approaches, outlined in the NBSAP, into broader master plans
332 such as national sustainable development plans, poverty reduction plans and national development plans, is
333 particularly appropriate because landscape approaches specifically aim to address the needs of the various
334 stakeholders. In local government, master plans provide the same opportunity for integration of biodiversity goals,
335 especially from the perspective of landscape approaches. Where possible, national governments may want to
336 encourage or propose policy that requires cooperation between sectors when formulating strategy. Alternatively,
337 a committee can be set up to enable and encourage discussion between different sectors that should be involved
338 in landscape approaches.

339 *National governments are also likely to have sectoral plans, other than NBSAPs, that are also relevant to*
340 *biodiversity.* These plans provide the opportunity to provide biodiversity-relevant input, in the same way that
341 various Government sectors are involved in the NBSAP. The opportunity to provide such input into other sectoral
342 plans may even be a result of inviting other sectors to be involved in the NBSAP process. In other cases, it might
343 require approaching individuals and offering biodiversity-related expertise. Cross-sectoral cooperation like this can
344 also increase understanding of the processes and challenges faced by different sectors. At best, it may help to
345 guide the formulation of strategy and policy that is more conscious of the need for biodiversity conservation.

346 Policy may also be needed to apply landscape approaches across national borders, which could require
347 cooperation between neighboring countries. Transboundary landscape approaches may be beneficial even when
348 stakeholders on one side of a national border have never been in contact with those on the other. For example,
349 when a river flows over a border, communities and biodiversity downstream are affected by activities upstream.
350 Landscape connectivity, in general, can play a key role in landscape approaches.

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Annex: additional resources

- 354 • **NBSAP Forum**. The NBSAP Forum is a global partnership aiming to support the implementation of the UN
355 Biodiversity Convention and its policy and reporting mechanism. It is hosted by the Secretariat of the CBD, the
356 United Nations Development Programme (UNDP), and UN Environment Programme (UNEP). Its purpose of is
357 to support countries in finding the information they need to develop and implement effective NBSAPs
358 National Reports.
- 359 • Convention in Biological Diversity. (revised 2011-2012). **NBSAP Capacity Building Modules**. A set of modules
360 produced by the CBD outlining different aspects of NBSAPs including mainstreaming, setting targets, ensuring
361 inclusive societal engagement, gaining political support, communication, subnational authorities and gender.
- 362 • Landscape approaches are a key aspect of the **Satoyama concept**, which “aims to build on mutually beneficial
363 human-nature relationships, where the maintenance and development of socio-economic activities (including
364 agriculture, fishing and forestry) aligns with natural processes” and “entailing a range of activities including
365 expanding the body of knowledge about how the relationships between humans and nature should function in
366 a wide variety of production landscapes and seascapes from both social and scientific points of view.”
- 367 • Forest Peoples Programme. (2020). **Local Biodiversity Outlooks 2: The contributions of indigenous peoples
368 and local communities to the implementation of the Strategic Plan for Biodiversity 2011–2020 and to
369 renewing nature and cultures**. This, the second iteration of the local biodiversity outlook, is a complement to
370 the fifth edition of the Global Biodiversity Outlook produced by the CBD Secretariat. It “presents the
371 perspectives and experiences of indigenous peoples and local communities (IPLCs) on the current social-
372 ecological crisis, and their contributions to the implementation of the Strategic Plan for Biodiversity 2011–
373 2020 and to the renewal of nature and cultures.
- 374 • Ajjugo J, Kamanga J, Kanyamibwa S, Scherr SJ. (2020). **How Integrated Landscape Management can
375 contribute to the CBD Post-2020 Biodiversity Framework: Recommendations for policymakers from African
376 Landscape Leaders: Recommendations for policymakers from African Landscape Leaders**. Results of a
377 dialogue looking at African perspectives of biodiversity conservation and emphasizing the provision of policy
378 support for locally led landscape partnerships, building ‘green’ landscape economies, and measuring
379 landscape-level performance.
- 380 • Secretariat of the Convention on Biological Diversity. (2011). **Report on how to improve sustainable use of
381 biodiversity in a landscape perspective (UNEP/CBD/SBSTTA/15/13)**. An official document of the Fifteenth
382 meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, offering a rationale for focus
383 on the landscape level.
- 384 • IUCN. (2021). **Science-based ecosystem restoration for the 2020s and beyond**. A “think piece” that presents
385 recommendations for “specific actions to be undertaken by public and private stakeholders to sustain and
386 restore the diverse and functioning ecosystems essential for human wellbeing and the preservation of
387 biodiversity.” It offers “a framework of questions, key messages and recommendations.”
- 388 • Mitchell N, Rössler M, Tricaud P (2009). **World Heritage Cultural Landscapes: A Handbook for Conservation
389 and Management**. A book designed “to assist managers of World Heritage inscribed cultural landscapes, those
390 to whom they are responsible and with whom they should be working, and to inform those seeking potential
391 nomination of cultural landscapes of the requirements for successful on-site management”. It’s focus is on
392 protecting the outstanding universal value in the inscribed landscape. This requires skills, knowledge and
393 information, a planning process which is inclusive and multi-tiered, promotion and funding. Maintaining the
394 landscape and its values and assessing the limits of acceptable change are the key challenges.
- 395 • Ervin J, Mulongoy KJ, Lawrence K, Game E, Sheppard D, Bridgewater P, Bennett G, Gidda SB, Bos P. (2010).
396 **Making Protected Areas Relevant: A guide to integrating protected areas into wider landscapes, seascapes
397 and sectoral plans and strategies**. CBD Technical Series No. 44. Montreal, Canada: Convention on Biological
398 Diversity, 94pp. This guide provides conservation planners with a concrete set of steps they can take to
399 improve protected area integration, including getting started, assessing the broader context, developing and

- 400 implementing strategies and monitoring the results. This guide also aims to inform and support others
 401 involved in land use planning to help them better understand and integrate conservation principles into their
 402 work.
- 403 ● Secretariat of the Convention on Biological Diversity. (2011). **NBSAP training modules version 2.2 – Module 2.**
 404 **Using the Biodiversity Planning Process to Prepare or Update a National Biodiversity Strategy and Action**
 405 **Plans.** Montreal, June 2011. This module forms part of a training package on the updating and revision of
 406 national biodiversity strategies and action plans (NBSAPs) in line with the Strategic Plan for Biodiversity 2011-
 407 2020 and the Aichi Biodiversity Targets. The package is intended for national focal points of the Convention on
 408 Biological Diversity, those responsible for updating and implementing NBSAPs and other biodiversity planners,
 409 including those responsible for other biodiversity related conventions.
 - 410 ● Boedhihartono, Klintuni A. (2012). **Visualizing Sustainable Landscapes: Understanding and Negotiating**
 411 **Conservation and Development Trade-offs Using Visual Techniques.** Gland, Switzerland: IUCN. (56 pp). This
 412 manual aims to support the environmental community who is using visualization techniques to communicate
 413 both abstract and concrete ideas when dealing with conservation and development situations. The manual
 414 contains various visualization techniques that will facilitate communication among various stakeholders from
 415 different ethnic groups, with different levels of educations and literacy and different needs.
 - 416 ● IIED and UNEP-WCMC. (2015). **Putting biodiversity at the centre of development: a checklist for reviewing**
 417 **the mainstreaming potential of a country's NBSAP.** This toolkit targets those who want to mainstream
 418 biodiversity concerns into development policy and planning or to highlight how biodiversity contributes to
 419 nutrition and social development or are involved in developing or revising an NBSAP. This guides these toolkit
 420 users to: 1) Make better use of the NBSAP revision opportunity; 2) Understand the mainstreaming process –
 421 biodiversity into development and development into biodiversity – and find out more about helpful tools and
 422 approaches; 3) Acquire the ability and skills to select, assemble, analyse and present compelling evidence on
 423 the links between biodiversity and national development priorities; and 4) Develop a communication strategy.
- 424

425 Bibliography

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- [1] CBD, *Decision 15/6. Mechanisms for planning, monitoring, reporting and review*, 2022.
- [2] A. Farina, "The Cultural Landscape as a Model for the Integration of Ecology and Economics," *BioScience*, vol. 50, no. 4, p. 313–320, 2000.
- [3] L. Denier, S. Scherr, S. Shames, P. Chatterton, L. Hovani and N. Stam, *The little sustainable landscapes book*, Oxford: Global Canopy Programme, 2015.
- [4] A. H. Perera, U. Peterson, G. Martínez Pastur and L. R. Iverson, *Ecosystem Services from Forest Landscapes: Broad-scale Considerations*, Cham: Springer, 2018, p. 265.
- [5] J. Sayer, T. Sunderland, J. Ghazoul and L. E. Buck, "Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses," *Proceedings of the National Academy of Sciences*, vol. 10, no. 21, p. 8349–8356, 2013.
- [6] J. Sayer, "Reconciling Conservation and Development: Are Landscapes the Answer?," *Biotropica*, vol. 41, no. 6, pp. 649-652, 2009.
- [7] CBD, *Decision 5/6: Ecosystem approach*, 2000.
- [8] P. Arbo and P. T. T. Thủy, "Use conflicts in marine ecosystem-based management — The case of oil versus fisheries," *Ocean & Coastal Management*, vol. 122, pp. 77-86, 2016.
- [9] A. Velázquez, E. M. Cué-Bär, A. Larrazábal, N. Sosa, J. L. Villaseñor, M. McCall and G. Ibarra-Manríquez, "Building participatory landscape-based conservation alternatives: A case study of Michoacán, Mexico," *Applied Geography*, vol. 29, no. 4, pp. 513-526, 2009.

- [10] M. Nishi and M. Yamazaki, *Landscape Approaches for the Post-2020 Biodiversity Agenda: Perspectives from Socio-Ecological Production Landscapes and Seascapes*, UNU-IAS, 2020.
- [11] CBD, *Decision 15/4. Kunming-Montreal Global Biodiversity Framework*, 2022.
- [12] J. Ajjugo, J. Kamanga and S. S. S. J. Kanyamibwa, *How integrated landscape management can contribute to the CBD post-2020 biodiversity framework: Recommendations for policymakers from African landscape leaders*, Fairfax: EcoAgriculture Partners, 2020.
- [13] CBD, *Decision 15/12. Engagement with subnational governments, cities and other local authorities to enhance implementation of the Kunming-Montreal Global Biodiversity Framework*, 2022.
- [14] Technology Matters, "Terraso: Building a sustainable future," 2023. [Online]. Available: <https://techmatters.org/project/1000-landscapes/>.
- [15] B. Martín-López, M. R. Felipe-Lucia, E. M. Bennett, A. Norström, G. Peterson, T. Plieninger, C. C. Hicks, F. Turkelboom, M. García-Llorente, S. Jacobs, S. Lavorel, Locatelli and B., "A novel telecoupling framework to assess social relations across spatial scales," *Journal of Environmental Management*, vol. 241, pp. 251-263, 2019.
- [16] E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.
- [17] J. Cameron and D. Grant-Smith, "Putting people in planning: participatory democracy, inclusion and power," in *Australian environmental planning: Challenges and future prospects*, Routledge, 2014, pp. 197-205.
- [18] European Space Agency, "ESA Climate Change Initiative," 2015. [Online]. Available: <https://www.esa-landcover-cci.org>.
- [19] UN-WCMC, "Protected Areas (WDPA)," 2023. [Online]. Available: <https://www.protectedplanet.net/en/thematic-areas/wdpa?tab=WDPA>.
- [20] UN Biodiversity Lab, "UN Biodiversity Lab," 2023. [Online]. Available: <https://map.unbiodiversitylab.org>.
- [21] Q-GIS, "Q-GIS," 2023. [Online]. Available: <https://qgis.org/en>.
- [22] ArcGIS, "ArcGIS Online," 2023. [Online]. Available: <https://www.arcgis.com>.
- [23] J. Sayer, C. Margules, A. K. Boedhihartono, A. Dale, T. Sunderland, J. Supriatna and R. Saryanthi, "Landscape approaches: what are the pre-conditions for success?," *Sustainability Science*, vol. 10, p. 345–355, 2014.
- [24] Conservation International, "Landscape," 2023. [Online]. Available: <https://www.conservation.org/projects/landscape..>
- [25] CBD, "Decision 15/5. Monitoring framework for the Kunming-Montreal Global Biodiversity Framework," 2022. [Online].
- [26] EcoAgriculture Partners, *An Integrated Landscape Target for the Sustainable Development Goals*, 2014.
- [27] E. A. Morgan, T. Cadman and B. Mackey, "Integrating forest management across the landscape: a three pillar framework," *Journal of Environmental Planning and Management*, vol. 64, no. 10, pp. 1735-1769, 2021.
- [28] USAID, *Community Conservation Policy Support*, 2020.
- [29] Ministry of the Environment of the Government of Japan, *Satoyama in Japan – for nature-based solutions*, 2022.
- [30] Meghalaya, "About IBDLP," Accessed 2023. [Online]. Available: <https://miemeghalaya.org/about-ibdlp/>.
- [31] Satoyama Initiative, "Conservation and management of biodiversity of cultural, spiritual and food sovereignty importance, and recovery of indigenous knowledge in the management of their territory," Accessed 2023. [Online]. Available: https://sdm.satoyama-initiative.org/projects/2018_panama/.
- [32] UN-WCMC, "National ecosystem assessments for people & nature," 2023. [Online]. Available: <https://www.ecosystemassessments.net>.
- [33] IUCN, "Key Biodiversity Areas," 2022. [Online]. Available: <https://www.iucn.org/resources/conservation-tool/key-biodiversity-areas>.

- [34] UN-WCMC, "Supporting indigenous peoples' and local communities' contributions to conservation," 2023. [Online]. Available: <https://www.unep-wcmc.org/en/news/supporting-indigenous-peoples-and-local-communities>.
- [35] Ramsar, "Wetlands of international importance," 2014. [Online]. Available: <https://www.ramsar.org/sites-countries/wetlands-of-international-importance>.
- [36] UNESCO, "Natural World Heritage," 2023. [Online]. Available: <https://whc.unesco.org/en/natural-world-heritage/>.
- [37] IUCN, "Red List of Ecosystems," 2022. [Online]. Available: <https://iucnrle.org>.
- [38] Ramsar Convention, "CEPA action plans and guidelines," 2023. [Online]. Available: <https://www.ramsar.org/activity/cepa-action-plans-and-guidelines>.
- [39] M. Nishi, Y. Natori and D. Dublin, *Resilience in Landscapes & Seascapes: Building Back Better from COVID-19*, UNU-IAS, 2021.
- [40] M. B. Hahn, A. M. Riederer and S. O. Foster, "The Livelihood Vulnerability Index: A pragmatic approach to assessing risks from climate variability and change—A case study in Mozambique," *Global Environmental Change*, vol. 19, no. 1, pp. 74-88, 2009.
- [41] U. C. R. Toolkit, "Social Vulnerability Index," 2021. [Online]. Available: <https://toolkit.climate.gov/tool/social-vulnerability-index>.
- [42] S. R. Centre, "The nine planetary boundaries," 2022. [Online]. Available: <https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html>.
- [43] M. Nishi, S. M. Subramanian and H. Gupta, *The Biodiversity–Health–Sustainability Nexus: Integrated Solutions from Landscapes & Seascapes*, Tokyo: UNU-IAS, 2022.
- [44] CBD, "National Reports," 2023. [Online]. Available: <https://www.cbd.int/reports/>.
- [45] CBD, *Updating National Biodiversity Strategies and Action Plans in line with the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets Training Package (Version 2.1)*, 2011.
- [46] CBD, *Decision 15/12. Engagement with subnational governments, cities and other local authorities to enhance implementation of the Kunming-Montreal Global Biodiversity Framework*, 2022.
- [47] CBD, *Decision 15/12. Engagement with subnational governments, cities and other local authorities to enhance implementation of the Kunming-Montreal Global Biodiversity Framework*, 2022.
- [48] IPBES, 2021.
- [49] "<https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-05-en.pdf>," [Online].
- [50] Protected Planet, "Protected Areas (WDPA)," 2023. [Online]. Available: <https://www.protectedplanet.net/en/thematic-areas/wdpa?tab=WDPA..>

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