

## Chapter 6. Creating an enabling environment for business: options for action by governments, the financial system and other actors

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**This chapter should be cited as:** Leach K., Loyola R., Chatwin A., Leenders C., Mukumbuta Guillemin I., Park M.S., Syed Hazari S.M., Yiu E. Prodani K., Rabeschini G., Vera Paz A. (2026). **Chapter 6: Creating an enabling environment for business: options for action by governments, the financial sector, Indigenous people and local communities and civil society.** In: Methodological Assessment Report of the Impact and Dependence of Business on Biodiversity and Nature's Contributions to People of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Rueda X., Jones M., Polasky S., (eds.). IPBES secretariat, Bonn, Germany. DOI: <https://doi.org/10.5281/zenodo.17074600>

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# Contents

<b>Executive Summary .....</b>	<b>1</b>
<b>6.1. Introduction .....</b>	<b>4</b>
6.1.1. The rationale and mandate of this chapter .....	4
6.1.2. Changes to create an enabling environment .....	5
6.1.3. How actions can create an enabling environment for business .....	6
6.1.4. Collective options for action to support transformative change .....	7
6.1.5. Constraints and limitations in enacting transformative change .....	10
<b>6.2. Actors .....</b>	<b>12</b>
6.2.1. Overview .....	12
6.2.2. Why these actors are important .....	15
<b>6.3. Options for action .....</b>	<b>21</b>
6.3.1 Legal and regulatory .....	21
6.3.2. Economics and financial .....	28
6.3.3. Norms and values .....	31
6.3.4. Technology and data .....	35
6.3.5. Capacity and knowledge .....	37
<b>6.4. Barriers to action .....</b>	<b>40</b>
6.4.1 Misalignment of objectives between actors .....	40
6.4.2 Short-termism .....	41
6.4.3 Siloed or ineffective governance .....	41
6.4.5 Lack of political priority for biodiversity .....	41
6.4.6 Power asymmetry between actors .....	42
6.4.7 Lack of recognition of Indigenous rights, and other applicable rights of local communities .....	43
6.4.8 Limited technical and financial resources .....	44
6.4.9 Uneven exposure to nature-related financial risks .....	44
<b>6.5. Knowledge gaps .....</b>	<b>46</b>
<b>6.6. References .....</b>	<b>48</b>

# List of boxes

<b>Box 6.1. Litigation for ecological, cultural and economic impacts of biodiversity loss on Indigenous Peoples and local communities .....</b>	<b>25</b>
<b>Box 6.2. Examples of accountability .....</b>	<b>27</b>
<b>Box 6.3. Case study: Debt-for-nature swaps – Galápagos marine bond .....</b>	<b>30</b>
<b>Box 6.4. Example of the Business for Nature Coalition .....</b>	<b>32</b>
<b>Box 6.5. Integrating Indigenous and local knowledge in sustainable devil's claw harvesting business: a case study from Namibia .....</b>	<b>33</b>
<b>Box 6.6. Examples of certification programmes .....</b>	<b>34</b>

# List of tables

<b>Table 6.1. A typology of actors in the financial system beyond private financial institutions. ....</b>	<b>14</b>
<b>Table 6.2. Examples of evidence-based policy instruments to facilitate action by businesses on biodiversity .....</b>	<b>23</b>
<b>Table 6.3. Knowledge gaps .....</b>	<b>46</b>

## Executive Summary

**1. Governments, the financial system, civil society, Indigenous Peoples and local communities and businesses themselves can use measures of dependence and impact of businesses on biodiversity and nature's contributions to people to promote and evaluate businesses' actions and performance (*well established*) {6.1.2, 6.1.3}.** These actors can individually and collectively, with businesses themselves via their influence on others (see **Chapter 5**), change the current conditions to create an enabling environment which supports transformative change by businesses and contributes to halting and reversing biodiversity loss. Actions by governments, the financial system, civil society, and Indigenous Peoples and local communities, can range from those which deliver incremental change to those which deliver transformative change. They can drive changes to the current conditions to create an enabling environment through legal and regulatory frameworks, economic and financial systems, norms and values, technology and data, and capacity and knowledge.

**2. Changing the current conditions to create an enabling environment is not always possible by one actor alone - governments, the financial system, civil society, Indigenous Peoples and local communities and others have to work together, with businesses themselves, to promote and ultimately deliver the global systemic and transformative change needed to support businesses' efforts to contribute to the 2050 Vision for Biodiversity and the objectives of the Convention on Biological Diversity (*established but incomplete*) {6.1.4}.** An enabling environment requires mainstreaming biodiversity into strategies and practices on a local and global scale and across sectors. Such multi-actor collaboration is essential to ensuring transformative change and stable long-term results for biodiversity and nature's contributions to people, not threatened by changing private or public sector priorities. Actors can collaborate to advance deliberate transformative change following a range of strategies: conserving and regenerating places of value to nature and people; driving systemic change in sectors most responsible for biodiversity's decline; transforming economic systems for biodiversity and equity; transforming governance systems to be integrated, inclusive, accountable and adaptive; and shifting societal views and values to recognise interconnections between humans and biodiversity. Individually, governments, the financial system, civil society, and Indigenous Peoples and local communities can also take action to support businesses in their efforts.

**3. An enabling environment for action by businesses can be created through changes to a) policy, legislation and regulatory frameworks, b) economic and financial systems, c) social values, norms and culture, d) technology and data, and d) capacity and knowledge.** Changes to the legal and regulatory context for businesses include the use of evidence-based decision-making, inclusive governance, transparency, and fair benefit-sharing. The economic and financial incentives for businesses can be changed to mobilize and reform financial systems, including ensuring inclusive and equitable access to finance. Actions related to changing norms and values encompass inclusive decision-making and partnerships, and raising awareness and standards. Advances in technology and data includes greater accessibility, data collection, standardization and accounting frameworks, tools and models. Capacity and knowledge can be built and enhanced through training, stakeholder engagement, and empowerment and respect for rights as they related to knowledge and knowledge systems. Changes can be made in each of these areas through individual or collective action by government, in the financial system and by other actors including civil society and Indigenous Peoples and local communities. The roles of these groups of actors vary across each of these areas. The changes required to create an enabling environment are different in different contexts, including according to different national circumstances.

**4. Governments can establish and implement policy options based on measures of impacts and dependencies to create an enabling environment for businesses (*well established*) {6.1.4, 6.2.2, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5}.** Different levels of government can create different enabling

environments for businesses and financial institutions, working regionally and internationally but also at the national level with other governmental bodies. Governments can change the policy environment to reach global biodiversity goals and build a fair, competitive environment and political certainty for businesses to support transformative change. Different policy options, for example, financing research on measures of businesses dependence and impacts of biodiversity and nature's contribution to people and legislating on incentives and subsidies for biodiversity conservation, taxes to harmful actions to biodiversity, based on measures of businesses dependence and impacts of biodiversity and nature's contribution to people, can lead to transition pathways for businesses that contribute to the 2050 Vision for Biodiversity.

**5. Financial policymakers and multilateral, national and global financial actors can change the financial system's architecture to support the 2050 Vision for Biodiversity (*well established*) {6.2.2, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5 }.** The financial system can create an enabling environment for businesses by greening finance (addressing nature-related risks) and financing green (incentivising financing for nature through nature-related opportunities). Actors across the system can use measures of impact and dependence to support these efforts. Central banks and financial supervisors, public development banks, international finance institutions and standard-setting bodies can all drive more effective and coordinated efforts that lead financial institutions to allocate financial services (loans, investments, insurance policies) in ways that better account for environmental outcomes. Financial policymakers can support efforts through three main avenues: incentivising financial actors to disclose nature-related risks, shaping financial actors' capital allocation decisions by providing better financing and refinancing conditions for green investments and loans, and working directly with governments to support national environmental objectives.

**6. Civil society is vital in the education of businesses and consumers, advocacy, business accountability and in fostering collaboration with businesses to promote sustainability and address environmental challenges (*well established*) {6.2.2, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5 }.** Civil society refers to a diversity of actors including non-governmental organizations, international organizations, consumers and stakeholders. Civil society leverages expertise, networks, and advocacy efforts to bridge the gap between businesses and biodiversity. Civil society empowers stakeholders to make informed choices and hold businesses accountable for their social and environmental impacts by educating consumers, advocating for sustainable practices, and promoting transparency in business operations. By facilitating collaboration and knowledge-sharing, civil society drives change towards a just and sustainable future, enabling businesses to integrate ecological considerations into decision-making processes.

**7. Indigenous Peoples and local communities can apply measures of business impact and dependence to support collaborative monitoring and facilitate meaningful engagement in consultations and negotiations with businesses (*well established*) {6.2.2, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5}.** These measures can strengthen Indigenous Peoples and local communities' ability to advocate for sustainable practices and ensure their perspectives are integrated into decision-making. Indigenous Peoples and local communities contribute valuable insights into sustainable resource management and play a critical role in tracking biodiversity change. However, addressing power imbalances requires mechanisms that enable Indigenous Peoples and local communities to engage in policy advocacy, participate equitably in businesses' activities, and uphold their collective governance structures. Ensuring that Indigenous Peoples and local communities' voices are recognized and their interests protected necessitates systemic changes, including legal and institutional frameworks that mandate transparency and accountability. Additionally, capacity programmes tailored to Indigenous Peoples and local communities' needs, knowledge systems, and lived realities are essential for enhancing their ability to navigate business relations and effectively utilize measures of impact and dependence.

**8. There are still barriers to action by governments, the financial system, civil society and Indigenous Peoples and local communities that will need to be overcome if changes to create an enabling environment are to be successful (*well established*) {6.1.5, 6.4}.** Actions will need to consider the different socioeconomic conditions and capacities as well as technical, technological, and financial challenges, including those faced by developing countries. Actions also need to consider that small and medium-sized businesses may have different barriers. All countries, particularly many developing countries, face unique situations like competing priorities, political constraints and instability, power imbalances, influence of vested interests and a lack of institutional frameworks. Significant barriers to be overcome to change the existing enabling environment for businesses include, but are not limited to, persistent relations of domination, especially those that emerged and were propagated in colonial eras, economic and political inequalities, inadequate policies and unfit institutions, unsustainable consumption and production patterns and individual habits and practices, and limited access to clean technologies and uncoordinated knowledge and innovation systems. Addressing these barriers will be key for enacting transformative change by businesses.

**9. There are also a range of knowledge gaps in understanding the enabling environment for businesses that are important to consider and many of these are similar for governments, the financial system, civil society and Indigenous Peoples and local communities (*well established*) {6.5}.** The gaps are categorised according to three categories: 1) knowledge and data where this includes gaps in remote sensing technology for monitoring biodiversity, understanding Indigenous Peoples' knowledge, rights, and genetic resources, and assessing the effectiveness of certification programmes and consumer behaviour; 2) methods and approaches where this identifies the need to integrate traditional knowledge into environmental impact assessments; and 3) policy-relevant studies which emphasises the necessity for research into financial systems' roles in preventing biodiversity loss, evidence-based biodiversity policies and economic instruments, long-term data on monetary policy's environmental effects and partnerships between civil society and businesses.

## 6.1. Introduction

### 6.1.1. The rationale and mandate of this chapter

Businesses operate within larger societal and legal contexts. Recognising there is no one-size-fits-all approach, this chapter describes potential options for how governments, the financial system, civil society, Indigenous Peoples and local communities (IPLCs) and others may use measures of dependence and impact to promote and evaluate businesses actions and performance. The chapter also explores how the outcomes of such approaches for measurement can be integrated into other aspects of sustainability, considering the motivations described in **Chapter 5**.

The objectives of this assessment are to support efforts by businesses to contribute to the 2050 Vision for Biodiversity and the Convention on Biological Diversity objectives by strengthening the knowledge base on the impacts and dependencies of businesses on biodiversity. This includes strengthening the knowledge base among governments, the financial system, civil society and IPLCs to boost collective expertise, insights and information. While **Chapter 5** describes potential options for how businesses and private financial institutions may use measures of dependence and impact and contribute to transformative change, **Chapter 6** focuses on options for actions that can change the conditions to create an enabling environment for businesses and help achieve the 2050 Vision for Biodiversity.

This chapter considers the various actors that can create an enabling environment, why they are essential in supporting measures of impacts and dependencies by businesses, and what the options for action by these actors are that can support business efforts, including case studies where relevant. This chapter also illustrates how all the options for action by these actors can come together to change the existing enabling environment to one which supports transformative change by businesses.

In this chapter, the category of actors considered is adapted from the IPBES Values Assessment (IPBES, 2022), which identifies several stakeholder groups categorised into three different, but not exclusive, categories according to their level of influence and affectedness (Chevalier and Buckles, 2008):

- Influencers: people and organizations who influence decision-making processes related to biodiversity, impacting those who implement the decisions.
- Affected actors: people and organizations directly involved in (and dependent on) the implementation of biodiversity-related decisions and who have stakes and interests.
- Key players: people and organizations who both can influence and become affected by decisions – that is, in specific contexts, they serve as influencers while at the same time being involved in actual decision-making (Grimble & Wellard, 1997; Miles, 2017).

This chapter considers ‘key players’ only: governments, the financial system, and other actors, considered to be civil society, including consumers, non-governmental organizations, international organizations, and IPLCs. Building on the typology used in the IPBES Values Assessment, IPLCs are considered key players, rather than only an affected actor (Kelemen et al., 2022). In the context of this assessment IPLCs can have both an influence and can be affected by business decisions as per the definition for key players. In this assessment, the ‘private sector’ is considered to include private businesses and private financial institutions – private businesses and private financial institutions are considered in **Chapter 5**, and other non-state actors in the financial system, as well as governments, civil society and IPLCs are considered in **Chapter 6**.

### 6.1.2. Changes to create an enabling environment

This chapter builds on **Chapter 1** and considers the following categories of enabling conditions for each actor: 1) legal and regulatory 2) economics and financial 3) norms and values, 4) technology and data and 5) capacity and knowledge.

Options for action by governments, the financial system, civil society, and IPLCs, can range from those which deliver incremental change to those which deliver transformative change. Incremental change could mean, for example, small changes in the economic case for a management response by a business. In contrast, transformative change could mean, for example, regulating against a specific behaviour, subsidy reform, which influences the economics of a whole sector, or withholding insurance from particular activities which render them untenable. In many cases, options for action will operate across a spectrum of change from incremental to transformative, i.e., no binary classification exists.

Transformative change is system-wide therefore to achieve it requires a whole of society and whole of government approach that engages all actors and sectors in visioning and contributing individually and collectively to transformative change. Transformative change will be needed to change the existing enabling environment for businesses and to halt and reverse biodiversity loss. The IPBES Transformative Change Assessment (IPBES, 2024a) notes five key strategies to advance deliberate transformative change (many of which are of relevance in this chapter and considered in **Section 6.1.4**):

1. Conserving and regenerating places of value to nature and people
2. Driving systemic change in sectors most responsible for nature's decline
3. Transforming economic systems for nature and equity
4. Transforming governance systems to be integrated, inclusive, accountable and adaptive
5. Shifting societal views and values to recognise interconnections between humans and nature.

The Sustainable Development Goals and the 2050 Vision for Biodiversity cannot be achieved without transformative change. In the short term (before 2030), all decision makers can contribute to the sustainability transformation through the rapid and improved deployment of existing policy instruments and new initiatives that more effectively incentivise individual and collective action for transformative change and the reform and removal of harmful existing policies and subsidies. Additional actions are necessary to enable transformative change in the long term (up to 2050) to address the root causes of biodiversity loss, including changes in social, economic, and technological structures within and across nations (IPBES, 2019).

Although part of a broader transformation process, visioning is often a crucial first step to reshape understanding and build commitment for transformative change, by altering how people perceive the world, their expectations and sense of possibility (Moore et al., 2014; Van Der Helm, 2009; Wiek & Iwaniec, 2014). This shift in understanding affects behaviours, experimentation, and crisis responses (Pereira et al., 2018). Narratives have an important role in visioning. Narratives are abstract representations of how one sees causal relationships within systems, are often composed of multiple stories, frame problems and solutions with internal logic and may align with power structures (Leach et al., 2010; Lynam & Brown, 2012). Thus, they can either embed within existing systems or enable renewal by legitimizing new ideas (Leach et al., 2010; Lynam & Brown, 2012).

Challenging dominant narratives is frequently seen as key to sustainability transformations, as new narratives can shift mental models and mobilize actors toward transformative action (Galafassi et al., 2018). A given narrative might be consistent with a range of potentially transformative options. This includes different economic concepts like post-growth, degrowth, circular economy, inclusive wealth

and decoupling. It further encompasses other knowledge systems and ways of thinking about human-nature relations, for example, Mother Earth-centric actions, ecological civilisation, nature as a common pool resource or visions based on the incommensurability of nature. This could involve valuing and embedding biodiversity in decision-making and disclosure (target 15 in the Kunming-Montreal Global Biodiversity Framework) so that governments, businesses, the financial system, civil society and IPLCs can make better long-term decisions; reforming subsidies and incentives (as it is called in some cultures) to reward positive action on biodiversity alongside innovative and circular business models and promote financial solutions that support nature (target 18 in the Kunming-Montreal Global Biodiversity Framework); and joining forces for biodiversity so that the public and private sector can implement solutions and empower society to act (Business for Nature, 2020). These options can be coupled with scenarios of biodiversity change (Sala et al., 2000) to test their effects on the drivers of biodiversity change and their interactions and can also be harnessed to inform the development of narratives that represent potentially transformative futures, for example how degrowth scenarios affect atmospheric carbon dioxide or land use and can in turn contribute to the transformation of economic systems for biodiversity and equity.

At the same time, narratives based on the Nature Futures Framework can also unpack existing concepts, such as continued but 'green' growth or post-growth/bio-cultural societies, by exploring what would be required to enable the development pathway and describing the future that might emerge. The Nature Futures Framework is a flexible tool to support the development of scenarios and models of desirable futures for people, nature, and Mother Earth. The framework was developed in direct response to the conclusions of the methodological assessment report on scenarios and models of biodiversity and ecosystem services (IPBES, 2016b), which identified limitations of existing scenario approaches in their usefulness for biodiversity and ecosystem services. It includes three value perspectives on the relationship between humans and nature: nature for nature (people view nature as having intrinsic value), nature as culture/one with nature (highlights relational values of nature, where societies, cultures, traditions and faiths are intertwined with nature in shaping diverse biocultural landscapes), and nature for society (highlights the utilitarian benefits and instrumental values that nature provides to people and societies).

Future-based narratives enable further exploration of possible actions and pathways to achieve transformative change, as presented in the IPBES Global Assessment of Biodiversity and Ecosystem Services and Transformative Change Assessment, and create an enabling environment (IPBES, 2019, 2024c). The Nature Futures Framework has been applied to different contexts – building scenarios framing the development pathways of a functioning national ecological integration (Mayer et al., 2023), developing visions for a national park (Kuiper et al., 2022), creating scenarios for urban development (Lembi et al., 2020; Shaikh & Hamel, 2023), and exploring trade-offs between values and management options for adaptive decision-making (Palacios-Abrantes et al., 2022; Stronge et al., 2023) – but its use in developing business scenarios is still in its infancy. Although scenario analysis is widely used in business planning, it has historically focussed on business performance (Cork et al., 2023). Nature futures scenarios can be used to explore the transition to new business models and understand how business ideal future states can shift traditional ways of forecasting impacts on nature to nature-centred visions and pathways considering biodiversity, ecosystem functions and services, and human well-being, and incorporating multiple systems of knowledge across sectors.

The options for actions presented and discussed in section 6.3 can contribute to the formulation of such narratives to create an enabling environment.

### **6.1.3. How actions can create an enabling environment for business**

Individually, governments, the financial system, civil society, and IPLCs can take action to drive changes in business behaviour. However, when working collectively all actors can change the



conditions to create an enabling environment for businesses and financial institutions that supports transformative change. Furthermore, coalitions of actors are often more effective for achieving common goals and transformative change than when actors pursue change individually (IPBES, 2024a). If actions are organized in an innovative and coordinated way, exponential change can happen, and transformation will be accelerated (IPBES, 2024a). Only together will these actors be able to unlock new opportunities to deliver the global systemic and transformative change needed to support businesses' efforts to contribute to the 2050 Vision for Biodiversity and the objectives of the Convention on Biological Diversity. Changing the existing conditions towards an enabling environment that supports transformative change requires mainstreaming biodiversity into strategies and practices, from the local to the global scale for all sectors. Adequate resources exist, but drivers for business action are required for meeting the 2050 Vision for Biodiversity of living in harmony with nature.

Establishing an enabling environment that safeguards Indigenous rights, and other applicable rights of local communities, and their territories and conserves biodiversity necessitates a multifaceted approach that involves various institutions, such as governments and intergovernmental, non-governmental, and conservation organizations. A crucial aspect of this approach is acknowledging and protecting Indigenous rights, and other applicable rights of local communities and their territories. This can be accomplished by accurately documenting their lands and water, reinforcing their customary rights and law, and empowering them to assert their custodianship and recognition of rights through government endorsements and private sector recognition (WWF et al., 2021). Collaborative governance among IPLCs and the public and private sectors on measures of impact and dependence on biodiversity can encourage inclusive decision-making processes which integrate traditional knowledge into environmental management.

#### **6.1.4. Collective options for action to support transformative change**

The IPBES Global Assessment of Biodiversity and Ecosystem Services identified eight priority points for intervention, or leverage points, with five associated 'levers' that may be applied by leaders in governments, businesses, civil society and academia to spark transformative changes towards a more just and sustainable world. The IPBES Transformative Change Assessment builds on these leverage points and levers to develop five key strategies to advance deliberate transformative change. Below illustrative examples are provided where actors can come together to create an enabling environment for businesses according to these five strategies. While this section focuses on collective options for action, **Section 6.3** covers a wide range of actions that can be taken by individual actors to support transformative change.

##### **1. Conserving and regenerating places of value to nature and people**

Transformative change can include enhancing legal protections for biodiversity, respecting the rights of nature and the rights of Mother Earth as recognised by some countries, basing conservation on diverse values and adopting regenerative views, structures and practices and integrated spatial planning.

Environmental laws and policies are important, for example, in the context of efforts to combat illegal, unreported and unregulated fishing and the illegal wildlife trade, or to ensure that infrastructure development complies with environmental assessments and their findings. Sustainability standards are an example relevant in the context of this assessment. Despite some progress in developing and tightening voluntary sustainability standards (Lambin et al., 2014), there is only limited evidence of the potential for standards to support in bending the curve on biodiversity loss (Khew et al., 2016). Sustainability standards focus currently on a small number of commodities (Tayleur et al., 2017) and there is research suggesting they need to be less lenient and ambiguous (Christian et al., 2013).

Governments and actors in the financial system can require, develop and support standards on biodiversity, civil society can strengthen standards and requirements for engaging with businesses, IPLCs can bring in diverse values and standard-setting bodies can strengthen compliance and assurance mechanisms of standards. The standards need to align with the mitigation and conservation hierarchy, include long-term management and monitoring for conservation areas (e.g., those with “high conservation value”, as used in certification standards) and ensure recognition of the rights of Indigenous Peoples and local communities, in accordance with national legislation.

Taking pre-emptive and precautionary actions in regulatory and management institutions and businesses aligned to the mitigation and conservation hierarchy, and monitoring their outcomes is central to conservation action, especially taking account of the risk of approaching thresholds or tipping points which precipitate rapid loss of biodiversity and nature's contributions to people. As detailed in **Chapter 5**, the mitigation hierarchy (and the extended concept of the mitigation and conservation hierarchy) is fundamental for guiding business action to deliver outcomes for biodiversity and people at all scales and levels of decision-making. Proper implementation of the mitigation hierarchy needs to be strengthened and supported by businesses, the financial system, civil society, IPLCs and governments to robustly and meaningfully address impacts on biodiversity (Phalan et al., 2018; von Hase & ten Kate, 2017).

## 2. Driving systemic change in sectors most responsible for nature's decline

Actions towards this strategy include regulating unsustainable exploitation of organisms, embedding technologies in transformative frameworks, financing for global sustainability and supporting civil society initiatives.

Many existing policies that comprise financial, economic and regulatory instruments (such as regulations and taxes) can have substantial negative effects on biodiversity but have the potential to become transformative. Government economic support, including subsidies, is pervasive in countries around the world. Incentives are often difficult to reform because of strong opposition from recipients and tight linkages with regional and international trade (Delabre et al., 2021). Shifts in subsidies may have negative economic impacts on low income and poorly resourced producers if they are insufficiently thought out (Sumaila et al., 2016). However, incentives are a necessary element of efforts to reform fisheries, agriculture and water management and to ensure that resources are in place to achieve restoration and support nature-based solutions for sustainable climate action. Some governments have revised their regulatory instruments based on environmental criteria, for example the New Zealand fisheries subsidy reform which includes strict sustainability criteria.

Public environmentally harmful subsidies are currently estimated at \$2.6 trillion a year, equivalent to 2.5 per cent of global gross domestic product (GDP) (Koplow & Steenblik, 2024). Governments can 1) phase out and eliminate harmful policy instruments to stop financial support to activities that have unintended negative impacts on biodiversity and the environment; and 2) increase incentives for actions by businesses and other stakeholders that deliver positive long-term outcomes for people, biodiversity and climate through innovative, circular, regenerative and profitable business models (Business for Nature, 2023). In the Kunming-Montreal Global Biodiversity Framework, Target 18 requires Parties to the Convention on Biological Diversity to “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 per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity”. The accompanying monitoring framework provides indicators to track progress towards the target, for example value of subsidies and other incentives harmful to biodiversity that have been eliminated, phased out or reformed. Collectively, perverse incentives can be eliminated by governments enforcing regulations and reviewing current

incentive programmes (for example, following the step-by-step guide on how to repurpose subsidies harmful to biodiversity and improve their impacts on people and biodiversity (UNDP-BIOFIN, 2024)), but this will need to be undertaken in collaboration with the financial system, and with civil society holding governments and businesses accountable in addressing these perverse incentives.

Costa Rica provides a good example of policy mixes that include regulatory measurements (the Forest Law of 1996), payment for ecosystem services, and business actions, particularly in the agriculture and tourism sectors, in favour of biodiversity-friendly practices and community-based conservation projects. Non-governmental organisations and the government have provided training and investment in research on best practices, while the Global Environmental Facility and the Green Climate Fund have provided funding to support those initiatives (Wunder, 2005). This policy mix has led to significant positive impacts, for example Costa Rica's Forest cover increased from 21 per cent in the 1980s to over 50 per cent, reversing decades of deforestation (Robalino & Pfaff, 2013). Eco-tourism has become a major industry, contributing to the national economy and creating jobs while promoting conservation.

### 3. Transforming economic systems for nature and equity

Transforming economic systems includes mainstreaming innovative economic tools, supporting just transitions towards good quality of life, reforming financial systems and institutions and adopting metrics of success that focus on social, economic, cultural and environmental goals.

Dominant value chains promote unsustainable sourcing and overproduction globally, but well-designed international agreements can help regulate these value chains to reduce unsustainable consumption and production. As an example, the reduction of waste is context-dependent and linked with development pathways. Rapid urbanisation and globalisation mean that supply chains require adequate infrastructure to reduce loss. Addressing waste is challenging because of shifts toward items with short shelf life (Parfitt et al., 2010). Governments and the financial system can work together to regulate businesses to reduce and report on waste, the academic community and businesses themselves can support social and technological innovation, civil society can increase citizens' awareness of biodiversity impacts in supply chains, and standard-setting bodies can develop independent codes of conduct.

### 4. Transforming governance systems to be integrated, inclusive, accountable and adaptive

Involving diverse stakeholders in decision making and addressing governance challenges is key to transformative change by businesses. The Sustainable Development Goals and the targets of the Kunming-Montreal Global Biodiversity Framework refer to integrating biodiversity values into national and local planning, development processes, and poverty reduction strategies and accounts. Government policies and market transactions typically do not reflect the full value of nature's contributions to people (Guerry et al., 2015) and, as an example, there can be a barrier to the implementation of methods, such as natural capital accounting, due to the current lack of interdisciplinary competencies to support addressing Indigenous and local knowledge systems alongside scientific analysis in business decision making and policymaking (non-monetary values that do not relate to economic methods are rarely considered) (IPBES, 2016a).

Integrated decision-making is a defining feature of the biodiversity inclusive one health transition by the World Health Organization and is also essential to enable integrated planning and management by businesses of infrastructure, landscapes, seascapes and water resources. Governments can develop and democratize natural capital accounting systems that incorporate economic, cultural, social, intrinsic, and intergenerational values of biodiversity with clear guidance on how the private sector can input, including through sector transition plans, IPLCs can bring in diverse values and civil

society can strengthen the transparency of measures. The number of countries and businesses that have developed natural capital accounting systems, which consider the explicit role of biodiversity in poverty reduction strategies and other key development plans could be tracked. Progress could also be tracked by measuring the frequency of use of valuation tools by businesses that assess the diverse conceptualization of multiple values of nature and its benefits.

#### 5. Shifting societal views and values to recognise interconnections between humans and nature.

Shifts can be facilitated through cultural narratives and by changing dominant social norms, facilitating transformative learning processes, co-creating new knowledge and weaving different knowledge systems, world views and values into business decision making.

As an example, promoting sustainable lifestyles is fundamental to addressing inequality in distribution and access and acknowledging that diets are embedded in cultural, social, and ecological contexts (Leach et al., 2020; Schröter et al., 2020) – for example, by businesses in the food and beverage sector. Shifting toward varied diets with fewer animal products could support people (particularly in the global North) in reducing their high environmental footprints (Willett et al., 2019). The financial system and businesses themselves can incentivise sustainable farming and food systems and IPLCs can maintain local/traditional knowledge and bring diverse worldviews and lifestyles to business decision making. Governments can support the development of ecological footprints, which consumers as well as businesses can use. Civil society can support shifts in perceptions and behaviours of citizens, and governments can put in place stronger controls for businesses on advertising which encourages unsustainable consumption behaviour.

Multi-actor collaboration is essential to ensuring that deliberations and participation between collaborators is meaningful, by linking actions to long-term empowerment processes (G. Williams, 2004). Bringing all actors together to change the conditions and create an enabling environment means ensuring more stable long-term results for biodiversity and its components that are not threatened by, for example, changing priorities in the private sector, changing governments or funding resources being depleted (Delabre et al., 2021).

### **6.1.5. Constraints and limitations in enacting transformative change**

Potential options for action by governments, the financial system, civil society, and IPLCs to change the current conditions and create an enabling environment which supports transformative change by businesses will need to consider different socioeconomic conditions and capacities as well as technical, technological, and financial challenges, including those faced by developing countries. The IPBES Transformative Change Assessment (IPBES, 2024a) identifies five overarching challenges to transformative change which can also be challenges for businesses: i) persistent relations of domination, especially those that emerged and were propagated in colonial eras, ii) economic and political inequalities, iii) inadequate policies and unfit institutions, iv) unsustainable consumption and production patterns and individual habits and practices, and v) limited access to clean technologies and uncoordinated knowledge and innovation systems.

All countries, particularly many developing countries, face unique situations like competing priorities, political constraints and instability, power imbalances, influence of vested interests and a lack of institutional frameworks. Significant barriers towards an enabling environment for businesses include, but are not limited to, inconsistency in policy and existing regulation and incentives, lack of capacity (e.g., financial resources, skills), constraints on the role that developing countries play in global trade which may restrict their capacity to implement reforms, complexity of supply chains and the challenge of tracing biodiversity impacts. Addressing these barriers will be key for enacting transformative change.

Section 6.4 covers the constraints and limitations (“barriers to action”) that may be faced for governments, the financial system, civil society and IPLCs.

## **6.2. Actors**

### **6.2.1. Overview**

#### **6.2.1.1. Governments**

Different structures of government systems exist depending on the political ideology or system (e.g., monarchy, democracy, federal republic) and governance approach (e.g., top-down or bottom up) that a country or state adopts, and its geographical region historical background. Regardless of what system a country adopts, all government systems operate at different levels (Alam, 2019), making governance a multi-tier endeavour.

These different types of governments function predominantly at different levels that interact with each other, forming a governance process. The interactions or relationships between different levels of governments determine how services are provided – meaning that different levels of governments may interact differently with businesses, although there is a clear distinction in types of government systems (governing at different levels) (Kourula et al., 2019; Steurer, 2013). It is, thus important to understand the different tiers of governments to comprehend how these entities respond to and interact with businesses and financial institutions on issues like sustainability and biodiversity (Abbott, 2012; Lambin & Thorlakson, 2018). Central and state or provincial governments typically hold legislative and judicial powers, unlike local or municipal governments. This lack of power at the local level can hinder their ability to respond to emerging issues and create supportive environments for businesses. However, local governments are often responsible for implementing actions stemming from multilateral environmental agreements, even though these are signed by the central government. The Conference of the Parties to the Convention on Biological Diversity has urged parties to engage local authorities in its implementation, as reinforced by the updated Plan of Action on Subnational Governments, Cities and other Local Authorities for Biodiversity (2023-2030) (CBD/COP/DEC/15/12) (Convention on Biological Diversity (CBD), 2022c). Although typically the relationship between all levels of governments and businesses is not explicitly revealed in any governance documents, it is understood that this relationship is mutual and somewhat interconnected and customarily related to licencing, taxes and conformance to applicable regulations, including those related to ensuring business compliance regarding the rights of Indigenous Peoples and local communities, in accordance with national legislation.

Regional cooperation, primarily through central governments, has effectively addressed shared interests like biodiversity conservation. While central governments are mandated to sign international agreements, other government levels may participate when relevant to their jurisdiction. Examples include the Association of Southeast Asian Nations, the European Union, and the African Union, which use working groups to tackle specific issues. The Association of Southeast Asian Nations, for example, has a dedicated working group called the Association of Southeast Asian Nations Business Advisory Council established to provide private sector feedback and guidance to boost efforts towards economic integration. In 2023, the Council, together with the Association of Southeast Asian Nations Centre for Biodiversity launched the Association of Southeast Asian Nations Business and Biodiversity Initiative, a platform to foster mainstreaming of biodiversity into business decision-making in the region (ASEAN Centre for Biodiversity, 2023).

#### **6.2.1.2. Financial system**

Climate change and biodiversity loss initially entered the agendas of financial actors as part of a broader shift in the financial regulatory paradigm that followed the financial crisis starting in 2007 (Deyris, 2023; Quorning, 2024), which undermined financial policymakers' optimistic assumptions about investors' abilities to accurately price risk (Stellinga, 2020). The financial system can play a

pivotal role in ensuring that businesses contribute to achieving the 2050 Vision for Biodiversity and the objectives of the Convention on Biological Diversity through a regulatory environment that enables businesses to take transformative actions. A country's financial system includes banks, nonbank lenders, insurers, securities markets, and investment funds. It also includes clearing counterparties, payment providers, central banks, financial regulators and supervisors (IMF, n.d.). The financial system beyond private financial institutions (which are covered in **Chapter 5**) includes financial regulators, central banks and supervisors, public development banks, international financial institutions, and standard setting bodies (see **Table 6.1**) – noting that there will be some overlap between these actors and the actions they can take with the actions that can be taken by governments, e.g., ministries of finance.

Central banks and financial supervisors can contribute to addressing climate change and biodiversity loss both through monetary policy as well as through supervisory practices that take into account climate and nature-related financial risks. Public development banks have a mandate to finance public policy on behalf of the State. They operate under the authority and supervision of one or several governments but have independent financial and legal status. Their purpose is to facilitate sustainable development through their own lending. International financial institutions can drive actions in alignment with the Kunming-Montreal Global Biodiversity Framework through mobilizing global private and public finance for nature, including grant capital and developing innovative financing mechanisms (UNDP, 2020). Standard setting bodies can establish nature-related financial reporting standards to promote comparability and accountability.

It is important to note that, although this chapter discusses the role of governments and the financial system separately, public-private collaborations are at the core of financial systems (Braun, 2020).

**Table 6.1. A typology of actors in the financial system beyond private financial institutions.**

Actors	Definition	Examples
Central banks and financial supervisors	Central banks are public institutions that manage through their monetary policy the currency of a country or group of countries to preserve price stability and depending on their specific mandate also secondary objectives like employment (ECB, 2015). Supervisors are public micro- and macro-prudential authorities that aim to promote financial stability and protect the customers of financial services (European Parliament, 2023).	National and regional central banks and supervisors, e.g., People's Bank of China, South African Reserve Bank, European Central Bank (ECB), the Federal Reserve in the United States.
Public development banks	Legally independent and financially autonomous public financial institutions initiated by governments to pursue public policy objectives (Finance in Common, n.d.).	Brazilian Development Bank (BNDES), French Development Agency (AFD).
International financial institutions	Multilateral, regional, and national development banks with international operations that have been established (or chartered) by more than one country (UNDP, n.d.).	IMF, World Bank, Asian Development Bank, Bank for International Settlements (BIS), United States of America International Development Finance Corporation (DFC), Inter-American Development Bank (IADB).
Standard setting bodies	International organizations that establish financial reporting standards are typically private sector, not-for-profit, self-regulated organizations with boards comprised mostly of experienced accountants, auditors, academics and users of financial statements (IAASB, 2020; IMF, 2021).	International Sustainability Standards Board (IFRS-ISSB), Global Reporting Initiative, European Financial Advisory Group (EFRAG).

### 6.2.1.3. Civil society

IPBES assessments have consistently emphasised the crucial role of civil society in the conservation and sustainable use of biodiversity and nature's contributions to people and have used a broad definition beyond traditional non-governmental organizations and international organizations that acknowledges the diversity of actors, including relevant consumers and stakeholders, who contribute their knowledge, expertise and resources towards conserving and sustainably using biodiversity and nature's contributions to people. In the context of this chapter civil society is broader than the institutionally recognised organisations, unions, associations, and other pressure groups. It considers citizens as historical subjects capable of understanding and changing the world around them instead of being passive recipients of a ready-made ideology. The Internet and other new information and communication technologies facilitate the rise of self-organised, leaderless movements, allowing a rapid and efficient mobilisation of citizens. Adapted from IPBES et al. (2018).



The demand for services provided by civil society has experienced remarkable growth over the decades, reflecting the increasing complexity of global challenges and the expanding role of non-governmental organizations in addressing them. There has been substantial growth in the number of international non-governmental organisations from 1900 to 2016 (Anheier, 2017). This surge can be attributed to several factors, including the globalisation of human rights, environmental conservation and poverty alleviation, which require coordinated efforts across borders. In addition, advancements in communication and technology have facilitated the formation and operation of non-governmental organizations, enabling them to mobilise resources, advocate for change, and deliver services more effectively globally.

The growth of international non-governmental organizations underscores the increasing recognition of civil society's vital role in holding businesses accountable, complementing government efforts, filling gaps in service delivery, and amplifying the voices of marginalised communities. These organizations often operate where governments are unable or unwilling to act, providing critical support in areas such as humanitarian aid, development assistance and advocacy for social justice. Moreover, the rise of international non-governmental organizations reflects a shift towards more participatory forms of governance, where citizens and communities play an active role in shaping policies and decisions that affect their lives. As global challenges continue to evolve and become more interconnected, the demand for the contribution and expertise of civil society will likely continue growing, highlighting the need for continued support and investment.

#### **6.2.1.4. Indigenous Peoples and local communities**

IPLCs, as well as other vulnerable groups, can interact with businesses in many ways when businesses' activities intersect with the territories, perspectives and cultural and environmental landscapes. Lack of recognition, protection, respect, responsible behaviour, adequate policies and strategies, and mutually beneficial outcomes often leads to conflicts or failure to achieve common objectives. On the other hand, mechanisms to foster better understanding, engagement and interests' alignment to transform the status quo from businesses' preponderance and community resistance to constructive integration of different perspectives of these actors will pave the road to produce positive outcomes (Klemm Verbos et al., 2017). IPLCs are essential actors<sup>1</sup> to support efforts by businesses to achieve the 2050 Vision for Biodiversity and the objectives of the Convention on Biological Diversity, and what the options for action are by IPLCs regarding measures of dependence and impact.

#### **6.2.2. Why these actors are important**

Each of the groups of actors described above have influence over and insight to facilitate a shift towards an enabling environment for business action. This is because they play a role in a) translating international conventions and agreements to national level, b) setting financial incentives, c) shaping norms, expectations and values and d) generating data, knowledge and capacity to act.

##### **6.2.2.1. Translating international conventions and agreements to national level**

The Kunming-Montreal Global Biodiversity Framework stresses that a whole-of-government and whole-of-society approach are needed to implement the necessary transformative changes by 2030 (CBD/COP/DEC/15/4) (Convention on Biological Diversity (CBD), 2022a). In doing so, the Parties to the Convention on Biological Diversity recognize that both action and cooperation are needed, not only across all levels of government, but also by all actors in society. The groups of actors identified in this chapter—governments, those in the financial system and other actors (including civil society

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<sup>1</sup> Data management report referring to the role of IPLCs in transforming the enabling environment  
<https://doi.org/10.5281/zenodo.12787554>

and IPLCs)—can play a role in translating the goals and ambitions of international conventions and agreements into action. This is in addition to the role played by businesses themselves (discussed in **Chapter 5**).

Governments are important actors because they are collectively responsible for setting international ambitions and can facilitate mainstreaming of these ambitions in businesses decision-making through national strategies and plans with forward looking visions. This leverages the role of visioning as an important driver for innovation and transformative change (Loorbach et al., 2017). National Biodiversity Strategies and Action Plans as well as Local Biodiversity Strategies and Action Plans contribute to biodiversity mainstreaming at the national level. Developing countries show more awareness of the importance of mainstreaming biodiversity across economic sectors in their National Biodiversity Strategies and Action Plans than developed countries (Whitehorn et al., 2019). The need for businesses to be involved in implementation of the Convention on Biological Diversity at the local level was made in 2006 (UNEP/CBD/COP/DEC/VIII/17) (Convention on Biological Diversity (CBD), 2006) and reinforced in subsequent decisions. Parties have made significant progress to explicitly include businesses' role in the implementation of their national plans, particularly to align with the vision and mission of the Kunming-Montreal Global Biodiversity Framework. For example, 100 parties have set at least one national target on target 15 and there are 216 national targets aligned with target 15<sup>2</sup>. Additionally, 16 parties<sup>3</sup> have non-state actors' commitments on target 15 as part of their national targets. By setting policy for economic sectors and financial institutions governments can create a "level playing field" and give businesses and financial institutions the political certainty they need to invest and change their business models required to reach the 2050 Vision for Biodiversity (Business for Nature, 2020).

IPLCs are recognised as key actors in multiple international conventions and agreements. The Kunming-Montreal Global Biodiversity Framework acknowledges that Indigenous rights, and other applicable rights of local communities, knowledge, including traditional knowledge associated with biodiversity, innovations, worldviews, values, and practices must be ensured, including their full and effective participation in decision-making. Article 8(j) of the Convention on Biological Diversity recognises IPLCs as groups that possess traditional lifestyles relevant for the conservation and sustainable use of biodiversity (CBD, 2022).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1973) and the Convention on the Conservation of Migratory Species of Wild Animals (CMS, 1979) reinforce the need for IPLCs' engagement and stewardship. The International Treaty on Plant Genetic Resources for Food and Agriculture recognises farmers' rights, including the protection of traditional knowledge relevant to plant genetic resources and the equitable sharing of benefits arising from their use (FAO, 2001). The Ramsar Convention on Wetlands supports the conservation and sustainable use of wetlands, which are critical for IPLCs' livelihoods (Ramsar, 1971). Additionally, the World Heritage Convention protects natural and cultural sites of outstanding universal value, often involving IPLCs in the stewardship of these sites (UNESCO, 2008). The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity provides a legal framework that includes traditional knowledge associated with genetic resources. The United Nations Declaration on the Rights of Indigenous Peoples outlines that Indigenous peoples have the right to self-determination, land, territories and resources. It emphasises that activities affecting Indigenous lands or resources need their free, prior

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<sup>2</sup> Data management report referring to a systematic review of governments' actions  
<https://doi.org/10.5281/zenodo.12787400>

<sup>3</sup> Burkina Faso, Benin, Dominican Republic, United Kingdom of Great Britain and Northern Ireland, Equatorial Guinea, India, Kenya, Lao People's Democratic Republic, Lesotho, Mexico, Niger, Papua New Guinea, the Philippines, Sierra Leone, Thailand, Venezuela (Bolivarian Republic of).

and informed consent and requires collaboration among stakeholders. For example, the Indigenous Peoples of Africa Coordinating Committee is currently working with partners in Namibia and Botswana on developing free, prior and informed consent protocols that are fit-for-purpose for local communities.

The role of actors in the financial system in implementing the three objectives of the Convention on Biological Diversity is recognised in Decisions, specifically relating to governments, multilateral development banks, international financial institutions, bilateral and multilateral funding organizations and other relevant organizations. This includes recognizing the need to increase international biodiversity-related financial flows and financial resources from all sources to fund nature-based solutions and achieve the objectives of the convention and the goals and targets of the Kunming-Montreal Global Biodiversity Framework (CBD/COP/DEC/15/4; 15/7; 15/15, CBD/COP/16/L.31/Rev.1) (Convention on Biological Diversity (CBD), 2022a, 2022b, 2022d, 2024) and see **Annex 6.1**).

#### **6.2.2.2. Setting financial incentives**

Governments and those in the financial system have significant influence over the financial incentives for business behaviour and action. Public interventions (e.g., public investments, removal of subsidies, ad hoc regulations) can enable businesses and private financial institutions to change their practices. Central banks and financial supervisors, public development banks, international financial institutions and standard setting bodies can also incentivize financial institutions to allocate financial services (loans, investments, insurance policies) in ways that better account for environmental outcomes. Such actions can aim to (a) protect financial stability by addressing systemic nature-related financial risks, including by addressing the financial system's role in driving environmental degradation and related financial risks (the endogeneity of nature-related financial risks), as well as (b) ensure better environmental outcomes.

The financial system can change the existing conditions for business to an enabling environment which supports transformative change by greening finance (addressing nature-related risks and impacts in finance) and financing green (incentivising financing for nature), and through aligning with international agreements. Decisions relating to financial incentives or resource mobilization are increasingly common in the context of the Convention on Biological Diversity. For example, see **Annex 6.1** showing that to date, decisions have tended to focus on financing green and providing more funds for the conservation and restoration of biodiversity, as opposed to reforms of the financial system and greening finance.

Actors in the financial system play an important role in incentivising businesses' behaviour in part because the financial system is at risk from the loss of biodiversity (NGFS-INSPIRE, 2022). To address the global biodiversity crisis, public and private financial actors have a responsibility for providing financial stability and enhancing public interest, which includes a responsibility to address the systemic risk arising from their direct and indirect role in biodiversity loss. The financial system can work on 'greening finance', that is directing financial flows away from projects with a negative impact on biodiversity and nature's contributions to people to projects that mitigate negative impact or pursue positive environmental impact as a co-benefit (World Bank Group, 2020). In addition to redirecting financial flows in this way, financial actors can also wield their influence to ensure that companies engaged in harmful projects work on mitigating negative impacts.

Greening finance, while progressing under the guidance of various frameworks and financial institution networks, is still largely limited to addressing climate change (Deutz, A. et al., 2020). For example, central banks and financial supervisors are not yet taking the same actions for biodiversity as they are taking on climate. However, they increasingly acknowledge the impact of biodiversity loss on price, associate financial stability to the stability of climate and increasingly recognize the

relationship between climate and biodiversity (NGFS, 2023a). This is despite research showing that central banks and financial supervisors are giving insufficient attention to biodiversity. Additionally, they mainly focus on what is financially material, and do not acknowledge what is material for biodiversity and society, commonly referred to as the double materiality concept (Boissinot et al., 2022).

The financial system is also important because of the scale of funding needed to address the loss of biodiversity. To halt and reverse the loss of biodiversity, increased finance for biodiversity by an average of \$711 billion a year over the next decade will be required (WWF, 2023b). The current financial flows to nature-based solutions of \$200 billion are vastly outweighed by finance flows with direct negative impacts on biodiversity of almost \$7 trillion per year (UNEP, 2026). Of this total, public finance flows through environmentally harmful subsidies accounted for approximately \$2.4 trillion, directed primarily towards fossil fuels (\$1.13 trillion), agriculture (\$0.41 trillion), water (\$0.40 trillion), transport (\$0.18 trillion), construction (\$0.15 trillion) and fisheries (\$0.06 trillion) (UNEP, 2026). The private sector was responsible for the majority of the nature-negative finance flows in 2023, estimated at \$4.9 trillion and concentrated on utilities (\$1.6 trillion), industrials (\$1.4 trillion), energy (\$0.7 trillion) and basic materials, including fertilizers and agricultural inputs (\$0.7 trillion). In contrast, biodiversity funds reached \$1.4 billion in 2023, with most of these funds domiciled in Europe and most funds sitting well below \$100 million in assets (Environmental Finance, 2024). Nevertheless, most of these biodiversity funds are focused on mitigating negative biodiversity impacts, rather than investing in activities that restore nature or provide new nature solutions.

Other sources estimate that more than \$102 billion of private finance, including 'debt-for-nature conversions, nature-supportive exchange traded funds (ETFs), biodiversity credits, and private venture capital for biodiversity' have been allocated to nature finance, compared to \$9.4 billion four years ago (UNEP FI, 2024). The UNEP Finance Initiative estimates that there is a potential to unlock \$1.45 trillion towards 'nature-related investment themes' by 2030 if current trends continue. Though public investments in nature do not have to be financed by debt (Kedward, Zu Ermgassen, et al., 2023), they can also be financed by reorienting public subsidies that are harmful to nature, as well as through redistributive mechanisms such as debt relief and tax justice (Dempsey et al., 2021).

The increasing financialization of nature poses significant risks to the integrity of traditional and local knowledge systems. The integration of IPLCs' contributions within market frameworks as 'assets' may undermine the intrinsic value of their knowledge systems and governance structures. There has been a historical absence of IPLCs' voices when defining projections of economic or environmental change, in the production of management knowledge and research, and in international business textbooks and business school education (Boussebaa, 2020; Dar et al., 2021; Fougère & Moulettes, 2012; Özkazanç-Pan, 2008; Srinivas, 2021). Diversifying the scope of values by including IPLCs' perspectives will promote a pluralistic debate (Banerjee, 2022; Mignolo & Walsh, 2018; Sarkki et al., 2023). The Mai Ka Pō Mai Native Hawaiian Guidance Document for the Management of the Papahānaumokuākea Marine National Monument is an example of incorporating the cosmovision and the environmental and cultural dependencies of IPLCs on biodiversity for the demarcation of a conservation area and the management of physical and biological resources of a region that is intrinsically linked with the worldviews of its people (Quiocho et al., 2023).

### **6.2.2.3. Determining norms, expectations and accountability**

Governments have a critical role in changing the norms and expectations for economic sectors, for example supporting more sustainable patterns of consumption, to create an enabling environment for businesses and civil society to redefine value and transform decision-making of businesses and financial institutions (OECD, 2019). With growing global awareness of environmental issues, civil

society acts as a bridge between the public and businesses, pressing for transparency and responsible behaviour. Environmental non-governmental organizations are vital in raising awareness and mobilising public opinion to pressure companies into prioritising environmental, social and governance issues. Environmental non-governmental organizations advocate for companies to adopt more responsible and sustainable practices, aligning their operations with broader societal values and expectations.

Beyond raising awareness, civil society contributes significantly to developing and enforcing the accountability of businesses. They participate in policy discussions and collaborate with governmental bodies to shape legislative frameworks encouraging businesses to assess and disclose their environmental impacts. Through initiatives such as certification programmes, partnerships and stakeholder engagement, civil society fosters a culture of accountability, encouraging businesses to integrate ecological considerations into their decision-making processes (Dimson et al., 2018).

Moreover, environmental non-governmental organizations often leverage their networks and expertise to hold companies accountable for their environmental and social impacts. By conducting research, monitoring corporate behaviour, and advocating for policy changes, these organizations spotlight companies that fail to prioritise environmental and social issues and push for greater transparency and accountability. Environmental non-governmental organizations can amplify their impact and drive positive change towards a more sustainable and equitable future through strategic engagement with stakeholders, including consumers, investors and policymakers (AUN, 2023)<sup>4</sup>.

IPLCs are vital actors because they traditionally occupy and manage land- and seascapes where much of the current biodiversity of the world can be found (Brondizio & Tourneau, 2016; Garnett et al., 2018). Worldviews encompass a holistic view of nature, whereby biodiversity is not merely a collection of species with which people interact but rather an interconnected web of life within which people are found, emphasizing other dimensions of dependency measures. Dependency measures from anthropogenic worldviews of living *from* and living *in* nature will differ from bio/ecocentric and pluricentric worldviews of living *with* and *as* nature (IPBES, 2022b). Living from nature emphasizes resource provisioning for sustaining livelihoods, needs and want. Living in nature refers to the importance of places as settings for people's lives, practices and cultures. Living with nature values its life-supporting processes in connection with the rights of 'other-than-human' elements. Living as nature is to perceive it as a physical, mental and spiritual part of oneself (IPBES, 2022b). In addition, IPLCs can be more strongly affected by biodiversity loss and the consequent environmental impacts, as their identities are more directly linked to and dependent on its components (Cámara-Leret et al., 2019; S. Lam et al., 2019; Richmond et al., 2005). This is especially important for Indigenous Peoples worldviews which consider that the health of the land and the community are synonymous, such as the Maasai Indigenous Peoples of Kenya, who believe the land is alive and it is seen as dead or dying when bare, symbolizing the end of life and sadness (Karmushu, 2024).

#### **6.2.2.4. Generating data, knowledge and capacity**

There is a lack of consistent and comparable data across countries on a range of indicators that would enable monitoring and evaluation of the outcomes and impacts of biodiversity mainstreaming interventions. Progress in this regard will require concerted efforts from finance, economic, environment and other sectoral ministries both within and across countries. This will entail, for example, adapting measures of economic performance to better incorporate biodiversity, reforming fiscal and economic policy to mainstream biodiversity in decision-making, and transforming the financial system so that it systematically accounts for biodiversity-related impacts and risks (OECD, 2021). Governments play an important role supporting the range and quality of data available by harnessing new and innovative technologies and approaches (e.g., through citizen-based approaches,

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<sup>4</sup> Data management report referring to a literature review for the civil society <https://doi.org/10.5281/zenodo.12787976>

in some countries recognized as citizen science, artificial intelligence and Earth observation) for monitoring and analysing data, as described in **Section 6.3.4** (OECD, 2019).

Civil society is also essential in generating data, knowledge and capacity as it gathers important biodiversity information and holds scientific expertise to help bridge the gap between businesses and biodiversity or nature's contributions to people (Dickinson et al., 2010; Stephenson & Stengel, 2020). Civil society is fundamental to creating an environment where businesses can thrive while promoting sustainable practices. Civil society's core competencies, including mobilising resources, disseminating information, offering intellectual insights, and fostering credibility, are pivotal in shaping a conducive business atmosphere (Boiral & Heras-Saizarbitoria, 2017).

Traditional knowledge systems, with deep-rooted cultural connections to their ecosystems developed over centuries, offer critical insights into sustainable resource management and intergenerational equity (Berkes et al., 2000; D. P. M. Lam et al., 2020; Parrotta et al., 2016; Tengö et al., 2014; Upriety et al., 2012). They often include adaptive strategies to cope with environmental changes that, when integrated into business strategies and regulatory frameworks, under free, prior, and informed consent, can enhance long-term resilience over short-term gains in the face of climate change and other global challenges, increasing the number of solutions to halt and reverse biodiversity loss and prioritize sustainability and social equity (Granderson, 2017; Leonard et al., 2013; Nyong et al., 2007; Riedlinger & Berkes, 2001).

## 6.3. Options for action

### 6.3.1 Legal and regulatory

#### 6.3.1.1. Evidence-based decision-making and use of impact and dependency measures

Governments can follow the process of evidence-based decision-making (Baba & HakemZadeh, 2012) in establishing and implementing policies for the conservation and sustainable use of biodiversity. Evidence can be defined as 'the interpretation of empirical data which results from formal research or systematic investigations using any type of science or social science methods' (Rychetnik et al., 2002). Evidence can also include local knowledge and Indigenous knowledge through observation and experience (Nyboer et al., 2025; Termansen et al., 2022). Measures of dependence and impact on biodiversity and nature's contributions to people by businesses can be used to provide evidence for decision-making for biodiversity conservation and management and support the design of policy instruments.

Evaluating the impact and cost-effectiveness of biodiversity policy instruments also provides crucial evidence for developing strategies to mobilise and scale-up finance in biodiversity policy making (Karousakis, 2018). Twenty cases of evidence-based policies to regulate and facilitate business actions for biodiversity were selected based on a search of articles.<sup>7</sup> The cases offer information on potential policy instruments, the data used (evidence), target resource (industry) and name of countries (**Table 6.3**). Several studies included in the literature review illustrate potential policy options, including incentives and subsidies for businesses, based on measures of dependence and impact of biodiversity. The cases have a specific focus on industries, such as agriculture, forestry and fisheries which are highlighted in Target 10 of the Kunming-Montreal Global Biodiversity Framework. For example, a comprehensive sustainability impact assessment of agricultural intensification scenarios including measurement of biodiversity indicators provided relevant evidence for agricultural management policy and decision-making which influenced agricultural practices by farm businesses in Brandenburg, Germany (Gutzler et al., 2015). The case from China shows recommendations for introducing incentives to encourage farmers to adopt sustainable agricultural practices, based on evidence on landscape diversity and natural resource management (Zhao et al., 2023). In Canada, the Government of British Columbia phased out subsidy programs and royalty credits for oil and gas companies because of the impacts of oil and gas operations on British Columbia's endangered Woodland Caribou (DiSilvestro & Irvine-Broque, 2023).

Central banks and financial supervisors can use measures of dependence and impact on biodiversity and nature's contributions to people by businesses to incentivize financial institutions to allocate financial services (loans, investments, insurance policies) in ways that better account for environmental outcomes through pursuing three main avenues, listed in increasing order of potential for transformative change (Oman et al., 2024):

First, they can require financial institutions to systematically disclose not only the climate and nature-related risks faced but also their impacts on climate and biodiversity, in line with decision CBD/COP/DEC/15/4. For instance, Article 29 of France's Energy and Climate Act No. 2019 1147 of 8 November 2019 and its implementing legislation extended former climate risk reporting requirements to include biodiversity-related issues. Investors are now required not only to disclose how they identify and manage biodiversity-related risks, but also how they impact biodiversity and align their investment strategies with long term biodiversity targets. Immediate actions which central banks and financial supervisors can take in the next two years aligned to decisions CBD/COP/DEC/15/4 and CBD/COP/DEC/15/7 (Convention on Biological Diversity (CBD), 2022a, 2022b) include: facilitating disclosure on nature-related dependencies, impacts, risks and opportunities, embracing available sector overviews providing insights into harmful activities and



agreeing on an overview of sectors harmful to nature; updating the fit and proper assessment (assessing the capabilities of the management bodies) of an institution and assessing knowledge levels specifically for nature-related risks; requiring mandatory disclosures of impacts, dependencies and nature-related risks and for financial institutions to demonstrate that there are no nature crimes in their financing value chains, either through anti-money laundering rules being broadened, or stand-alone mechanisms being introduced. However, increasing evidence on the impacts of disclosure (Kedward et al., 2022; Kiel & Deveau, 2021) suggests that the increasing “riskification of nature” (Van ‘T Klooster & Prodani, 2025) - that is, conceptualizing environmental degradation as well as policies to protect nature as drivers of measurable financial risk – has had limited effectiveness in shifting capital allocation.

A second approach includes arguing that central banks and financial supervisors have the ability not only to ‘fix’ market failures but also to ‘shape’ markets’ behaviours toward environmental outcomes (Smoleńska & Van ‘T Klooster, 2022) through more proactive policies and measures. For instance, central banks could provide better refinancing conditions or targeted long-term refinancing operations, e.g., by providing banks with preferential loans ‘earmarked’ for certain environmental projects (Couppey-Soubeyran, 2020; van’t Klooster & van Tilburg, 2020). Proactive monetary and financial policies are already being introduced in some countries (Dikau & Volz, 2021; D’Orazio & Popoyan, 2019). For example, the People’s Bank of China differentiates interest rates on banks’ deposits at the central bank based on the environmental performance of banks (Baer et al., 2021). These actions would contribute to shaping markets’ behaviours toward environmental outcomes without waiting for businesses to do so on their own. Central banks and financial supervisors can do this through requiring financial institutions to include biodiversity in their climate transition plans, considering the interconnectedness of biodiversity loss and climate change, and the potential trade-offs. In the long term, they can require mandatory transition plans for biodiversity, integrated or at least consistent with climate transition plans. They can also work towards integrating biodiversity-related transition plans in existing micro prudential supervisory policies and integrating biodiversity in existing macroprudential policies such as concentration limits and the systemic risk buffer.

A third approach goes one step further: if insufficient actions on issues such as biodiversity loss and climate change are caused by a lack of revenues, central banks and financial supervisors can seek to support governments (Braun & Downey, 2020). For instance, central banks could facilitate investments in environmental projects by buying green bonds issued by governments or public banks, either in primary or secondary markets (Bhattacharya et al., 2021; Couppey-Soubeyran, 2020; Gabor, 2020; Grauwe, 2019), in line with decision CBD/COP/DEC/15/7. They can work with governments on research into sectoral transition pathways and promote direct investments that halt and reverse the loss of biodiversity. Until that is available, they can work with the most pressing issues for which guiding goals are already defined, providing insights into the required transition. Together, they can also apply lessons learned from decarbonising monetary policy instruments to incorporating nature-related risks in monetary policy.

IPLCs can use measures of businesses impact and dependence on biodiversity to help demonstrate their relationships with the natural environment, making the links between business activities and their communities explicit and facilitating their incorporation in the value chain (Claridge & Kobei, 2023; Girard et al., 2022; Heinämäki, 2010; Posey, 1996). IPLCs, governments and businesses can collaborate in using measures of impact and dependence at a landscape level to identify critical landscapes that hold historical, cultural, and spiritual significance for IPLCs. This collaboration can help demarcate Indigenous territories, thereby ensuring ethnocultural integrity and environmental viability (Brown & Kothari, 2011). The formal recognition of IPLCs’ land tenure rights has played an important role in promoting ecological conservation or attenuating interlinkages between agriculture expansion and intensification in Latin America (Ceddia et al., 2015). In a study with 587 demarcated Indigenous lands in Brazil, Begotti & Peres (2020) show that physically demarcating



sufficiently large Indigenous reserves is essential to ensure both the long-term ethnocultural integrity and the territorial environmental viability of native Amerindians. Measures of impact and dependence can be essential to extend territorial coverage or establish and protect buffer zones around it, as impacts on biodiversity in areas adjacent to IPLC-designated territories often disrupt their livelihoods by, for example, reducing the abundance and diversity of animals used as a food source or by chemical contamination through food (Alcala-Orozco et al., 2019; Damiani et al., 2023; Harada et al., 2005; Ramirez-Gomez et al., 2016; Rorato et al., 2021). By supporting the establishment of buffer zones around IPLCs' territories, businesses can mitigate adverse impacts on biodiversity that disrupt livelihoods (Ford & Rowse, 2012).

**Table 6.2. Examples of evidence-based policy instruments to facilitate action by businesses on biodiversity<sup>5</sup>.**

Policy instrument	Data (evidence)	Target resource (industry)	Country	Reference
Subsidy	Provincial royalty credit program data, caribou populations and habitat data	Oil and gas	Canada	DiSilvestro & Irvine-Broque (2023)
Levy	Monitoring data	Fisheries	Global	Donlan & Wilcox (2008)
Tax	Monitoring data and survey to landowners	Agriculture	United States	Forshay et al. (2005)
Incentive	Data on impact of geodiversity and natural resource management	Agriculture	China	Zhao et al. (2023)
Certification	Biodiversity impact data	Agriculture	Colombia	Vargas et al. (2015)
Protected areas	Evaluation data on community nursery viability	Forestry and agriculture	Mexico	Luna-Nieves et al. (2019)
	Monitoring data	Forestry	Chile	Stephenson et al. (2022)
	Socio-economic impact data	Housing construction	Australia	Heagney et al. (2015)
Biodiversity offsets	Biodiversity accounting data	Development and forestry	India	Narain & Maron (2018)
	Standard on biodiversity offsets	Oil and gas	Global	Kate & Jeter (2012)
	Biodiversity accounting data	Development	Global	Gardner et al. (2013)
Decision-support system	Land and water use scenarios	Water	Australia	Elmahdi & McFarlane (2009)
	Data of costs and impacts, participatory rapid economic valuation, scenarios	Forestry, Fisheries, Tourism, Agriculture	Indonesia	Cannon & Surjadi (2004)
	Vegetation data, agricultural product yield data, GIS data, multi-criteria analysis	Agriculture	Australia	Zerger et al. (2009)
	Biodiversity data	Land use	Australia	Summerell et al. (2011)
Multiple instruments	Biodiversity impact data	Energy, transportation	Botswana	Kgathi et al. (2017)

<sup>5</sup> Data management report referring to a systematic review of governments' actions ([10.5281/zenodo.12787400](https://doi.org/10.5281/zenodo.12787400)).

	Biodiversity impact data	Agriculture, forestry	Global	Driscoll et al. (2012)
	Biodiversity impact data	Multi sectors	Global	McElwee et al. (2020)
	Multiple types of data	Multi sectors	Global	Turnhout et al. (2021)
Not specific	Impact assessments for agricultural intensification scenarios	Agriculture	Germany	Gutzler et al. (2015)

### 6.3.1.2. Laws and regulations

Legislation is a powerful policy instrument with a binding force by governments. Governments require legal accountability of officials and other actors based on laws (Brandsma & Schillemans, 2013). Legislation is an overarching framework to regulate and facilitate business actions and performance and can use measures of dependence and impact on biodiversity. Governments and regulatory agencies responsible for overseeing and enforcing rules within markets (e.g., stocks, bonds or derivatives) can mandate disclosure requirements for biodiversity-related impacts, dependencies, risks, and opportunities; help ensure consistent risk assessment and reporting frameworks; take legal action when companies fail to disclose nature-related risks adequately; and require investors to disclose their proxy voting decisions (e.g., on board elections, executive compensation or corporate strategy) and how biodiversity considerations are considered in these.

Governments can also amend biodiversity conservation and corporate laws to align with global sustainability standards such as those currently being explored by the International Sustainability Standards Board for biodiversity and ecosystem services (Grunewald et al., 2024). Data on business impacts on biodiversity can be crucial as evidence in legal proceedings to demonstrate the ecological, cultural, and economic significance of its components for IPLCs, supporting compensation claims (Kirsch, 2001; Turner et al., 2008). Impact assessments can establish legal guarantees for full compensation and hold businesses accountable for environmental and cultural damage (Gregory & Trousdale, 2009) see **Box 6.1**.

As a specific case study, environmental impact assessments were introduced to support decision-making in environmental management in many countries. An environmental impact assessment is a process used to evaluate the potential environmental impacts of a proposed plan, policy, or project prior to the decision to start the project. It is a standard tool for evidence-based decision-making in land use planning and as of 2011, 191 of the 193 Member States of the United Nations either have national legislation or have signed some form of international legal instrument that refers to the use of environmental impact assessments. Governments require companies to conduct environmental impact assessments prior to moving forward with the proposed actions such as infrastructure, recreation facilities, and other projects. Many governments use the outputs of environmental impact assessments including the measures of business impacts on biodiversity within these assessments (Cares et al., 2023) as a basis for decision-making. Article 14 of the Convention on Biological Diversity stipulates that ‘each contracting Party as far as possible and as appropriate, shall (a) introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures’ (Morgan, 2012).

Governments can design legislation that mandates action by businesses to avoid negative impacts on biodiversity. The Government of the United Kingdom of Great Britain and Northern Ireland have adopted Biodiversity Net Gain legislation, which requires developers to demonstrate that their proposals will achieve at least a 10 per cent net gain in biodiversity in order for them to obtain planning permission from local planning authorities (zu Ermgassen et al., 2021). If developers are

unable to achieve biodiversity net gain on-site, they can look at off-site delivery (ideally in the same local planning authority) or purchase statutory biodiversity credits from Government (UK Department for Environment, Food & Rural Affairs, 2024). Governments can also secure land access through a legal framework. The Kenyan Community Land Act (2016) provides a framework for IPLCs to utilize and demand benefits that may arise from biological resources in the communal lands in Kenya (Otieno, 2023). In addition, they can take legal measures to provide consumers with the information needed to promote sustainable consumption patterns. Environmental labels and certifications also give information to consumers and so do companies with marketing incentives that are recognizable among the public, such as awards (Thompson, 2018).

**Box 6.1. Litigation for ecological, cultural and economic impacts of biodiversity loss on Indigenous Peoples and local communities**

In one of the biggest socio-environmental disasters in Brazilian history, Fundão dam, owned by Samarco Company, Vale and BHP Billiton, collapsed in 2015 in Mariana, releasing around 50 million m<sup>3</sup> of mining waste slurry and sediments, destroying riparian, freshwater and marine ecosystems along more than 600km of watercourse and killing 19 people, while displacing another 600 (Fernandes et al., 2016). This disaster impacted local fishing communities and the Krenak Indigenous Peoples directly and indirectly, for whom the Doce (*Watu*) river is not only a subsistence resource but also a kin entity that provides counsel, protects, and contributes to the formation of the Krenak identity (Zhouri & Pascoal, 2022). In 2023, eight years after the disaster, victims are still trying to negotiate payment of compensation and environmental reparation, as the companies did not fulfil the agreement reached in 2015 (G1, 2023). In such contexts, it is essential to consider that biodiversity offsetting, a last step in the mitigation hierarchy, can aim to compensate for lost biodiversity 'values' in other distant areas, but may not be able to compensate for peoples' values associated with the specific local biodiversity (Tupala et al., 2022). As such, efforts should prevent and avoid impacts and provide IPLCs with resources to navigate complex legal processes.

Measures of environmental and public health impact were also key to plan and establish a clean-up strategy for pollution restoration related to the historical oil-spills from the oil extracting activities of The Royal Dutch Shell company on the territory of the Ogoni People in Nigeria. The United Nations Environment Programme's Assessment Report on Ogoniland, which assessed more than 200 locations, estimated that Ogoniland's sustainable recovery could take 25 to 30 years, requiring a joint effort of the government, the oil industry and the traditional rulers and people of Ogoniland.

### 6.3.1.3. Participation, governance, and partnerships

Laws and regulations need to encourage the development and enforcement of business policies that guarantee IPLCs' inclusion in the decision-making processes of businesses that depend on or impact biodiversity within their lands (Arquette et al., 2002; Black & McBean, 2016; Fridkin et al., 2019; Sangha et al., 2019; Kløcker Larsen & Raitio, 2023; Nadasdy, 2003). Changes to the policy environment for IPLCs and business relationships can secure the role of IPLCs in managing resources related to their historical territories, promoting practices aligned with their traditional knowledge and based on free, prior and informed consent (Bulengela et al., 2020; Golden et al., 2015; Reyes-García et al., 2022; Thériault et al., 2022). When investors seek territorial control through legal ownership of the land by dispossessing IPLCs without their free, prior, and informed consent, it leads to the criminalization of IPLCs' actions on their historical land (Karmushu, 2024). In this context, creating mechanisms for IPLCs to overcome unequal power structures, engage in policy advocacy and fairly participate in business activities such as consultations, negotiations, and policy development can ensure that their voices are heard and respected and their interests are considered (Kløcker Larsen & Raitio, 2023; Nadasdy, 2003).

It is also essential to guarantee that participation takes place not only prior to management but is set up as a long-term partnership. Mechanisms for community-based participation like design charrettes can act as trust-building exercises between stakeholders and support collaborative processes

(Roggema et al., 2014). The Khwa Ttu San culture and education center in South Africa is an example of a partnership jointly directed by the San People and a Swiss organization which provides on-the-job training for young San through tourism and cultural activities. However, when domination and colonial legacies structure the relations between IPLCs and businesses, or when it does not follow the communities' procedures of collective governance, it can lead to internal conflicts and entangle communities in more profound oppression (Banerjee, 2022; Gustafsson & Schilling-Vacaflor, 2022).

Whole-of-government approaches are crucial for addressing complex and interconnected challenges by ensuring integrated policymaking, efficient resource use, and comprehensive solutions (OECD, 2023). Several sectors such as agriculture, trade, tourism and many more, need to interact when it comes to biodiversity management. Therefore, coherence of policy instruments between and within sectors is needed for businesses to support the management of biodiversity. Coherent approaches would promote collaboration and information sharing among government entities, enhance stakeholder engagement including with businesses, align national policies with global commitments and improve transparency. By coordinating efforts across various sectors and levels of government, whole-of-government approaches create sustainable and holistic solutions to halting and reversing the loss of biodiversity and ensure that conflicting policies at different levels of government do not undermine biodiversity commitments (WEF, 2024).

Further civil society can actively participate in policy discussions. They can advocate for stronger environmental regulations and work with policymakers to develop and enforce laws that promote sustainable practices and biodiversity conservation. They also contribute to improving institutional competencies by conducting research, providing recommendations, and engaging in policy dialogue at both national and international levels, thus enhancing the regulatory framework necessary for biodiversity conservation and sustainable business practices (Buijs et al., 2024; Ghaus-Pasha, 2005). Civil society engages with policymakers, stakeholders, and government agencies to foster the integration of sustainability principles into policies, programs, and regulations which provide clarity on sustainable business practices. This advocacy may involve lobbying for financial incentives for businesses that adopt sustainable practices, promoting research a, or advocating for the inclusion of sustainability criteria in trade agreements (Arenas et al., 2013; Zompetti, 2006).

#### **6.3.1.4. Accountability and transparency**

Standard setting bodies can cooperate on the harmonization of sustainability disclosures and drive the transition of businesses and the financial sector away from activities that harm biodiversity, towards activities that protect and restore biodiversity. The International Sustainability Standards Board, in 2024, has commenced a research project on the disclosure of risks and opportunities associated with biodiversity, ecosystems and ecosystem services, and also rolled out a work plan to develop strategic relationships with other standard setting bodies and nature-related taskforces to align efforts, including the Transition Plan Taskforce, GHG Protocol, Carbon Disclosure Project (CDP), Taskforce on Nature related Financial Disclosures (TNFD) and Global Reporting Initiative (GRI).

A comparison report on nature-related assessment and disclosure frameworks and standards by UNEP-WCMC and the UNEP Finance Initiative also analyzed seven key bodies including CDP, European Sustainability Reporting Standards (ESRS), GRI, Natural Capital Protocol, Science Based Targets Network (SBTN) and TNFD to offer financial institutions insights into the evolving regulatory landscape related to nature and biodiversity (UNEP-WCMC & UNEP FI, 2025).

It is important to note that international standard-setting bodies often have tenuous claims to legitimacy and have been criticized for being captured by private interests and lacking in ambition (Chand & White, 2007; Richardson & Eberlein, 2011; Warren, 2024).

Civil society can play a crucial role in providing transparency to processes related to businesses and biodiversity by employing measures of impact and dependence (see examples in **Box 6.2**). These measures help illuminate the connections between business activities, their effects on biodiversity, and the degree to which businesses rely on biodiversity and nature's contributions to people. By quantifying and communicating these relationships, civil society can promote greater stakeholder accountability and understanding, facilitate informed decision-making, and foster a more equitable dialogue.

#### **Box 6.2. Examples of accountability**

One example of such an initiative is the Science-based Targets Initiative (SBTi, n.d.), which is an effort in assisting companies to set science-based targets to reduce greenhouse gas emissions in alignment with the objectives of the Paris Agreement. SBTi offers a standardised framework for businesses to establish emissions reduction goals that are scientifically rigorous and aligned with climate science. Through SBTi, companies receive guidance and support to develop ambitious, achievable targets that reflect their contribution to fighting the climate crisis. SBTi enables businesses to measure and track their progress towards sustainability goals by providing a comprehensive methodology and toolkit for setting emissions reduction targets. This standardised approach ensures consistency and comparability across different industries and sectors, facilitating benchmarking and best practice sharing among companies. By adopting science-based targets, businesses enhance transparency and accountability in their environmental performance, demonstrating their commitment to addressing climate change and contributing to the global effort to achieve climate resilience and sustainability. SBTi's engagement with companies also encompasses ongoing support and guidance throughout the implementation process. SBTi provides resources, training and technical assistance to help companies integrate emissions reduction targets into their business strategies, operations, and supply chains. This comprehensive support enables businesses to overcome barriers and challenges in transitioning to low-carbon operations, fostering innovation and driving continuous improvement in environmental performance.

Another example is the forest footprint disclosure project (Sustainable Forest Products, n.d.) an initiative to encourage companies to disclose their impacts on forests and proactively mitigate deforestation and forest degradation within their supply chains. It is a platform for companies to voluntarily disclose information regarding their forest-related activities, including deforestation risks, forest management practices and efforts to promote forest conservation. By participating, companies demonstrate their commitment to transparency and accountability in addressing their forest footprint. One of the key objectives of the project is to provide investors, consumers and policymakers with access to critical information about corporate forest risk exposure. Through comprehensive reporting and data disclosure, it enables stakeholders to assess how companies' operations and supply chains are linked to deforestation and forest degradation.

#### **6.3.1.5. Benefit-sharing, intellectual property and traditional knowledge**

Businesses can adopt robust measures that secure fair and equitable sharing of the benefits arising from using traditional knowledge systems associated with genetic resources, with IPLCs holding such knowledge under mutually agreed terms (Andoke Andoke et al., 2023; CBD, 2011; McDermott et al., 2013; Salafsky et al., 2001). This is crucial to prevent harm to traditional lifestyles from patent systems based on commercial interests and biopiracy, which can misappropriate traditional knowledge and reduce biological diversity. Patents over biochemical substances from traditional medicinal plants, for example, have historically generated billions of dollars in the pharmaceutical and natural product industries that, most of the time, did not result in revenues for IPLCs as stewards of the knowledge associated with these genetic resources. Important examples of disputes include patents in the United States of America over a strain of ayahuasca, a sacred plant for many Amazonian Indigenous Peoples (Press, 2022), varieties of quinoa, a staple grain for Andean IPLCs (Powledge, 2001), or antifungal agents from the neem tree, which has been used for centuries by Indian IPLCs (Hellerer & Jarayaman, 2000).

The Conference of the Parties to the Convention on Biological Diversity, at its 16th meeting, in decision 16/2, adopted modalities for operationalizing multilateral mechanisms, including a global fund – the Cali Fund for the Fair and Equitable Sharing of Benefits from the use of Digital Sequence Information on Genetic Resources (CBD/COP, 2024). One of its modalities states that at least half of the funding of the global fund should support the self-identified needs of IPLCs, including women and youth within those communities, through government authorities or by direct payments through institutions identified by IPLCs. Voluntary contributions by businesses are also encouraged if they are using such genetic resources.

Individual property rights and commodification of nature may also contrapose communal usage and stewardship principles from many IPLCs' worldviews, and options, such as communal patents, may provide a more substantial base for fair and equal benefit sharing (Aubertin, 1998; Mgbeoji, 2001; Raymond et al., 2013). IPLCs can use measures of impact and dependence of businesses on biodiversity in legal cases involving business activities and settle agreements to ensure their rights to intellectual property and benefit-sharing mechanisms. Benefit-sharing mechanisms can be monetary, e.g., sharing royalties when resources are used to create a commercial product, but also non-monetary, e.g., developing research skills (Chuah et al., 2014; Sanghera et al., 2015).

## **6.3.2. Economics and financial**

### **6.3.2.1. Mobilizing finance for biodiversity**

Governments can adopt economic instruments and mobilize finance for biodiversity. The Kunming-Montreal Global Biodiversity Framework calls for governments to scale up positive incentives for the conservation and sustainable use of biodiversity. The instruments may include taxes, fees, subsidies, payments for ecosystem services and biodiversity offsets. The design of the economic instruments can be based on measures of dependence and impact on biodiversity. According to the OECD's Policy Instruments for the Environment (PINE) database (OECD, 2021), a total of 227 biodiversity-positive taxes have been reported, spanning 70 countries. Across all countries reporting, the total revenue generated by biodiversity-relevant taxes is \$9.96 billion a year (average 2020 - 2022). 301 fees are in force across 75 countries, and 240 biodiversity subsidies are in force in 34 countries. As of 2024, 51 payments for ecosystem services schemes and 17 biodiversity offset programs are in force, in 28 and 9 countries, respectively. Biodiversity incentives are mainly applied in the agriculture, forestry, and fishing sectors (OECD, 2023).

For example, Costa Rica has established a longstanding framework for payment for ecosystem services as a mechanism to promote biodiversity conservation. The Private Wildlife Refuge Programs require landowners to develop and implement a government-approved management plan that delineates specific restrictions on land and resource use. In exchange, refuge proprietors are entitled to three primary benefits: (1) exemption from property taxes on land designated as a refuge, (2) access to technical support for the effective management of the protected area, and (3) governmental assistance in cases of squatter encroachment (Langholz et al., 2008).

Governments can also support blending public and private funds to de-risk biodiversity investments (Flammer et al., 2025). Blended finance is one example of an innovative financial instrument that can contribute to biodiversity efforts. This combines concessional public financing, primarily from development finance institutions and other resources, to leverage additional funds from the private sector to bridge the Sustainable Development Goals financing gap (EIG & World Bank Group, 2020). This form of financing between public and private actors is often used to “mitigate risk and facilitate financing for private sector-led projects that have the potential to generate social [and environmental] benefits” (EIG & World Bank Group, 2020). Many innovative financial transactions in support of biodiversity have been developed using blended finance, including debt-for-nature swaps (see **Box**

**6.3**), conservation bonds and potentially some projects that include nature-based solutions. Other traditional sustainable finance instruments, including the use of proceeds (project finance, etc.), sustainability-linked loans and sustainability-linked bonds, as well as biodiversity-related funds, can also be used to allocate capital towards biodiversity to meet the Kunming-Montreal Global Biodiversity Framework's goals and targets (Sustainalytics, 2021). However, it is important to note that blended finance can bring about harmful outcomes (Attridge & Engen, 2019) if it is informed by a 'de-risking' logic (Gabor, 2021) that redistributes financial risks from the private to the public sector.

International financial institutions can support governments in developing nature-related bonds, such as sustainability-linked bonds and sustainability-linked sovereign debt-related bonds, to advance biodiversity goals while refinancing foreign debt pressures related to biodiversity. They can be more strategic in allocating and targeting their biodiversity spending in countries and regions where there is most need and success for actions to halt and reverse the loss of biodiversity. They can do so by making investment decisions based on biodiversity-related data and evidence, in addition to poverty alleviation and other social and economic considerations (Hickey & Pimm, 2011). They can also play an active role in risk mitigation such as offering guarantees, insurance, or co-investment schemes to lower the risks for businesses investing in biodiversity-focused projects.

For example, the World Bank Group supports green, resilient, and inclusive development in client countries by integrating protection and restoration of biodiversity into economic policy, development programs, and strategic investments. It is a leading multilateral financier of biodiversity and ecosystem conservation, whose active portfolio included \$2.8 billion of direct investments in biodiversity in 2022 (World Bank Group, 2023). The International Monetary Fund, on the other hand, currently concentrates investments and efforts on climate change, and does not yet have a clear strategy for addressing biodiversity-related challenges. Decision (CBD/COP/DEC/15/7) (Convention on Biological Diversity (CBD), 2022b) of the Conference of the Parties to the Convention on Biological Diversity on resource mobilization, specifically calls on 'the World Bank Group and the International Monetary Fund, to immediately consider supporting implementation of the Kunming-Montreal Global Biodiversity Framework, including by partnering with the Kunming-Montreal Global Biodiversity Framework Fund, established as per paragraph 30 of the present decision'.

Public development banks have long-standing relations with private financial institutions and have a strong understanding of policy objectives and business concerns. Therefore, they can play a key catalytic role in bridging public and private commitments for green financing (Smallridge et al., 2012). They are not necessarily subject to the same returns requirements as private capital and therefore may be more suited to biodiversity investments that are not attractive at market rates. Providing ten percent of all annual private and public financing, public development banks are well placed to support public policies, set norms at national and regional levels, leverage private finance, and contribute to global goals, its funding, and their implementation (WWF & The Biodiversity Consultancy, 2021). However, public development banks' lending can also do harm to biodiversity. The potential damage to biodiversity resulting from public development banks leading activities driving deforestation and water scarcity and carried out without effective safeguards to mitigate them is \$800 billion annually (Finance for Biodiversity Initiative, 2021). Therefore, public development banks need to first manage their impacts and dependencies on and mitigate any risks to biodiversity and then increase their biodiversity investments. Public development banks can complement their climate investments by making explicit nature-based goals and targets a fundamental part of their efforts to support sustainable development and achieve the necessary convergence of climate and biodiversity finance.

Civil society plays a key role working with businesses to restore and sustain biodiversity to manage the biodiversity finance gap (Crisostomo, 2025; WEF, 2020). They play an important role in designing

biodiversity finance instruments like biodiversity offsets, conservation trusts and payment for ecosystem services schemes, which provide opportunities for businesses to invest or co-finance initiatives to ensure that instruments are deployed at the right scale to address biodiversity loss (Kujala et al., 2022). Civil society often acts as independent evaluator of the impact of financial instruments to reduce biodiversity loss, enhancing transparency and credibility of business contribution, as illustrated through the collaboration of the World Wildlife Fund with companies like H&M and IKEA to evaluate and improve biodiversity outcomes across supply chains (WWF, 2025; WWF & H&M Group, n.d.). In addition to increasing the total available for investment, the engagement of civil society in this effort can help improve the chances of success of the investment. For example, the Livelihoods Carbon Fund brings together companies like Danone with non-governmental organizations to finance agroforestry and ecosystem restoration projects in Africa and Asia (Flammer et al., 2023). Furthermore, civil society connects communities and smallholders with opportunities to access, as well as train them to use financing tools (e.g., eco-certification, biodiversity credits), which enhances business abilities to contribute to biodiversity investments (Milder et al., 2015).

**Box 6.3. Case study: Debt-for-nature swaps – Galápagos marine bond**

In 2023, the Government of Ecuador closed one of the world's largest debt-for-nature swap by selling a new \$656 million blue bond, reaching maturity in 2041, which will funnel \$12 million for the conservation of the Galapagos Islands, an endangered ecosystem with giant tortoises, marine iguanas and Darwin's finches (Jones & Campos, 2023). This innovative transaction took place in the form of blended finance, with Crédit Suisse arranging and structuring the bonds and development finance institutions, such as the Inter-American Development Bank and the International Development Finance Corporation of the United States of America, providing credit guarantees and political risk insurance (DFC, 2023). Other technical actors were also involved in the closing of this transaction.

### 6.3.2.2 Reforming global and national financial systems

The decision of the Conference of the Parties to the Convention on Biological Diversity, at its 15th meeting, on resource mobilization (CBD/COP/DEC/15/7) (Convention on Biological Diversity (CBD), 2022b) specifically calls for 'transformation of the global financial architecture and the reform of multilateral development banks and international finance institutions, including investment banks, to make them fit for purpose in supporting implementation of the Kunming-Montreal Global Biodiversity Framework, sustainable development and just transition efforts in developing countries'.

In addition, in decision CBD/COP/DEC/15/15, a decision related to financial mechanisms and the Global Biodiversity Framework Fund, the Conference of the Parties encourages engagement of multilateral development banks and other international financial institutions in the design and operationalization of the Global Biodiversity Framework Fund, with the view of leveraging additional resources from and for the fund and channeling them through new and existing biodiversity portfolios, which need to be aligned with the goals and targets of the Kunming-Montreal Global Biodiversity Framework.

Ministries of finance can transform fiscal and economic policies to address biodiversity loss, including budget allocation for biodiversity conservation and ensuring that projects with significant potential negative impacts on biodiversity are subject to strict scrutiny and rigorous environmental impact assessments. Ministries of finance can also phase-out harmful subsidies and introduce tax incentives that align financial flows with the goals and targets of the Kunming-Montreal Global Biodiversity Framework (DiSilvestro & Irvine-Broque, 2023; Thompson, 2018), although reform of subsidies is not new to this framework and was included in previous targets. Governments can formulate policies encouraging responsible management and transition of stranded assets and can include environmental safeguards in financial regulation alongside money laundering and other financial crimes.



Ministries of finance can build a regulatory framework that accelerates investments in nature markets, companies, and projects. In the report for the Coalition of Finance Ministers for Climate Action, actions for finance ministries, such as the development of nature investment plans and investments in global public goods, are recommended. They can support decentralized finance structures that allow capital to be made available on the biome level, region, or location. Governments can also establish funds for biodiversity conservation.

As an example, the State of New South Wales (Australia) established the Biodiversity Conservation Trust for investments in private land conservation, which supports sustainable farming businesses and avoids land use conflicts with mineral and energy source industries. This was done in accordance with the biodiversity conservation investment strategy 2018 (NSW, 2018). The New Zealand Government developed the New Zealand Sovereign Green Bond Framework, which includes among its eight 'green categories' terrestrial and aquatic biodiversity. In 2022 the Green Bond Programme financed, under these categories, collaborative decision-making on freshwater improvements through providing information, training, and capacity-building for stakeholders such as IPLCs, Māori, local councils, and businesses (New Zealand Treasury, 2024).

In addition, international financial institutions can promote the inclusion of biodiversity criteria in debt sustainability assessments, thereby embedding biodiversity into sovereign debt markets, alleviating economies from debt crises and ensuring financial transitions halt and reverse the loss of biodiversity (Kraemer & Volz, 2022).

### **6.3.2.3 Supporting inclusive and equitable access to finance**

IPLCs can use measures of impact and dependencies of businesses on biodiversity to support economic development by leveraging traditional knowledge (Sinthumule, 2023). IPLCs often engage in activities, such as eco-tourism, sustainable agriculture and traditional crafts, which contribute to economic progress and biodiversity conservation. For example, The Khoi and San tribes of the Western Cape Province, in South Africa, used the leaves of the Rooibos plant (*Aspalathus linearis*) to make tea. The Rooibos plant (red bush in Afrikaans) has been declared an Indigenous product, thus allowing the tribe to use their knowledge for sustainable agriculture and preservation, promoting economic growth (Haq et al., 2023).

Studies highlight the potential for Indigenous Peoples-led businesses to benefit communities economically while maintaining biodiversity (Haq et al., 2023; Robinson et al., 2021; Sinthumule, 2023). Businesses can play a vital role in supporting IPLCs' economic initiatives by recognizing and protecting Indigenous rights, and other applicable rights of local communities, and perspectives on nature and providing funding and support. This includes advocating for the inclusion of Indigenous Peoples' perspectives on valuing impacts and dependencies on nature in economic decisions and promoting ethical codes within financial institutions that prioritize inclusion of IPLCs in business models. Existing financial structures often disadvantage IPLCs, creating economic disparities. Businesses can advocate for inclusive policies and breaking down financial barriers, both of which are essential for promoting economic equity and sustainable development. Businesses can embrace new economic models that align with IPLCs' values. This shift requires promoting sustainable practices and acknowledging the intrinsic value of nature. Governments can also provide a budget to invest in local co-management strategies and technical support.

## **6.3.3. Norms and values**

### **6.3.3.1. Inclusive decision-making and partnerships**

Governments can play a role in fostering a positive and fair competitive environment for businesses that ensure their operations do not harm biodiversity, and disclose them transparently, especially for

companies that disclose voluntarily. This fostering role can ensure and emphasize the need for integration of biodiversity values into policy and regulation, highlighting the role of businesses in conservation through sustainable practices, investment in research, and collaboration with policymakers.

Governments can improve public-private partnerships and dialogue with businesses (DCED, 2008). They can ensure that relevant stakeholders, particularly IPLCs, are involved in the decision-making process related to businesses while adhering to free, prior, and informed consent. For example, promoting ethical consumption and business practices through mandated reporting or regulations on business sustainability and social responsibility. Governments and financial actors together can conceptualize new ways of valuing biodiversity, ensuring it is accounted for in regulations, corporate decisions, and national financial frameworks.

Another way of ensuring an inclusive decision-making process is to involve all relevant stakeholders into national level environment-related councils or working groups that can bring all relevant stakeholders together, thereby increasing awareness and ensuring involvement of all relevant stakeholders. In 1993, the President of the United States of America formed the President's Council on Sustainable Development that consisted of presidentially appointed leaders from businesses, the environmental sector, citizen organizations, Native American groups, and government (Bell, 2002). The purpose of the group, dissolved in 1999, was to report on and make recommendations for sustainability issues in the United States of America that ensured inclusivity among stakeholders.

Forming partnerships with businesses is a prime example of how the role of civil society can be leveraged to promote sustainability (see example in **Box 6.4**). Civil society and businesses can co-create and implement sustainable practices that benefit biodiversity and businesses' profit by joining forces. This collaborative approach allows the sharing of expertise, resources, and innovative solutions, leading to more effective and impactful outcomes. For example, some civil society organizations actively plan and implement restoration initiatives, working with businesses, governments and local communities to restore degraded ecosystems, enhance biodiversity and improve nature's contributions to people. Civil society can facilitate business partnerships by acting as intermediaries between businesses and communities, advocating for sustainable practices (see also Hidalgo-Ruz & Thiel, 2015), and ensuring that business interests align with environmental and societal needs. Through their grassroots networks, technical expertise, and advocacy efforts, civil society contributes significantly to the success of restoration projects, fostering collaboration and mobilizing resources for long-term conservation outcomes.

#### **Box 6.4. Example of the Business for Nature Coalition**

One example of collaborative efforts between businesses and civil society is Business for Nature (<https://www.businessfornature.org>), a global coalition comprising nearly a hundred organisations and companies that foster business actions towards a greener economy. Through Business for Nature, civil society and businesses advocate for policies and practices prioritising biodiversity conservation and promoting sustainable development. By pooling their collective resources and influence, members of this coalition can amplify their impact and drive positive change on a global scale. This partnership model demonstrates the power of collaboration between civil society and business sectors in advancing sustainability goals. By working together, these stakeholders can harness their strengths and capabilities to address complex environmental challenges and create a more sustainable future.

Working alongside IPLCs enables businesses to develop sustainable resource management plans that balance resource utilization with biodiversity conservation by incorporating Indigenous practices and ecological knowledge (Alessa et al., 2016). IPLCs contribute by emphasizing cultural sensitivity, social cohesion, and community engagement, which are crucial when working with Indigenous communities (Bone et al., 2011; Houdet et al., 2009; Lebel, 2013; Weber, 2010). By including

Indigenous perspectives in business models, companies can adopt more holistic approaches to development that align cultural values with contemporary economic practices (Berkes et al., 2000). This collaboration facilitates the integration of traditional ecological wisdom, which often emphasizes long-term sustainability and environmental stewardship. Such engagement fosters mutual respect and understanding, ultimately enhancing the resilience of both businesses and ecosystems and benefiting all parties involved (Berkes et al., 2000; Graça & Camarinha-Matos, 2023).

Moreover, the recognition of equal rights in relationships and the simultaneous need for businesses to protect the environment for mutual benefits highlights the integral role that businesses can play in environmental conservation efforts (see example in **Box 6.6**).

**Box 6.5. Integrating Indigenous and local knowledge in sustainable devil's claw harvesting business: a case study from Namibia.**

Globally, various strategic options exist to strengthen the relationship between IPLCs, biodiversity management and business. One notable example is Namibia's community-based natural resource management programme, which emphasises integrating Indigenous knowledge into conservation and business plans for a balanced resource management and utilisation approach. In the case of this programme, various initiatives such as the sustainable harvesting of devil's claw programme, which is an Indigenous knowledge product that provides medicinal properties as well as benefits from the ecological and Indigenous knowledge to facilitate a sustainable business model considering social and environmental aspects. This type of arrangement creates and facilitates benefit-sharing in a long-term working relationship between local communities and local business enterprises, even though the devil's claw is still to be recognized globally as an Indigenous product (Cole, n.d.).

### 6.3.3.2 Awareness raising and certification

Civil society offers valuable guidance and support to businesses seeking to operate ethically and sustainably (AUN, 2023), whether by advocating for eco-tourism ventures that promote conservation efforts, forging green supply chains that minimize environmental impact, or promoting responsible sourcing practices. These initiatives benefit the environment and create opportunities for businesses to differentiate themselves in the market, attract environmentally conscious consumers, and build long-term resilience. Civil society organizations can launch campaigns, including for example beach and river plastic waste clean ups, to raise public awareness about businesses' environmental impacts. By informing the public, they pressure companies to improve their practices and encourage consumers to make informed, environmentally conscious choices.

By encouraging or establishing credible, third-party audited or officially recognised certification programs and industry standards, civil society can influence consumer choices and create a competitive environment where businesses are recognised and rewarded for their commitment to environmentally sustainable practices. These certifications and standards (see examples in **Box 6.5**) inform consumers that products and services meet certain environmental criteria and may influence purchasing decisions or drive demand for sustainable goods and services.

The complex technical requirements and implementation cost of certifications may inadvertently exclude small holders, acting as a barrier to trade, so it is essential for stakeholders to participate in their design (see Watts et al., 2021). Overall, certifications and standards developed by civil society play a crucial role in driving sustainability across various industries by encouraging responsible practices, influencing consumer behavior, and fostering a competitive market for sustainable products and services.

Standard setting bodies can guide sustainability accounting and reporting standards on how diverse values of biodiversity will be measured, accounted for, and reported on to investors, society, and states, and considered in business decisions and decisions other stakeholders. They can also include

diverse values of biodiversity as viewed by rights holders, the scientific community, stakeholders, and society (Adams & Mueller, 2022).

#### **Box 6.6. Examples of certification programmes**

One example of a certification programme developed by civil society is the **Fairtrade certification** (Fair Trade Certified, n.d.), which promotes equitable trading relationships, supports sustainable development and is a powerful tool for promoting equitable trading relationships and fostering sustainable development, particularly in developing countries. Established in the 1980s, Fairtrade certification addresses the inherent inequalities in global trade by ensuring that producers, particularly small-scale farmers, and workers in marginalised communities, receive fair compensation for their products. Through Fairtrade certification, producers are guaranteed a minimum price for their goods, which is set to cover the cost of sustainable production and provide a living wage for workers. In addition to advocating for fair prices, Fairtrade certification requires producers to comply with environmental standards, encouraging sustainable farming practices that minimise environmental impact and promote ecosystem health. Producers certified under Fairtrade must adhere to criteria such as restricting harmful chemicals, conserving natural resources, and protecting biodiversity. Fairtrade certification promotes sustainable agriculture by mitigating environmental degradation caused by certain conventional farming practices. It contributes to the conservation of ecosystems and natural habitats. Fairtrade certification goes beyond economic and environmental considerations to prioritise social development and community empowerment. Producers certified under Fairtrade must invest some of their earnings into community development projects, such as education, healthcare and infrastructure improvements. This investment helps to strengthen local economies, improve livelihoods, and empower communities to become self-sufficient and resilient. Fairtrade certification fosters a sense of global solidarity by empowering consumers to support ethical and sustainable businesses. It promotes social justice, ultimately contributing to a more equitable and sustainable world.

The **Marine Stewardship Council** (Marine Stewardship Council, n.d.) works closely with fisheries, scientists, conservation organizations and other stakeholders to establish and implement rigorous standards for sustainable fishing practices. These standards encompass a range of criteria, including the health of fish stocks, the impact of fishing activities on marine habitats and ecosystems, and the effectiveness of fisheries management measures. Through extensive consultation and stakeholder engagement, the certification process involves scientific assessment, on-site inspections and stakeholder feedback to evaluate fisheries against these standards. Fisheries that meet the stringent criteria are awarded certification, signalling to consumers that the seafood products originating from these fisheries have been sourced sustainably. This certification helps consumers make informed choices about their seafood purchases, enabling them to support fisheries that prioritise environmental stewardship and responsible fishing practices. The certification also benefits consumers and incentivises fisheries to adopt more sustainable practices and improve their management strategies. By providing market incentives for sustainable fishing, the certification encourages fisheries to invest in measures to reduce bycatch, minimise ecosystem impacts and enhance long-term sustainability. Ultimately, the certification contributes to the conservation of marine biodiversity and the health of marine ecosystems by promoting sustainable seafood consumption and supporting fisheries that prioritise environmental responsibility.

Another certification scheme based on the positive effect of businesses on biodiversity is the **LIFE certification** (LIFE Institute Global, n.d.). Developed and managed by the LIFE Institute, a non-profit standard-setting organization founded in 2009, the LIFE certification aims to incentivise businesses to adopt practices contributing to biodiversity conservation, ecosystem restoration and sustainable natural resource management. Unlike traditional certification schemes that focus solely on minimising negative environmental impacts, the LIFE certification emphasises the proactive role that businesses can play in enhancing biodiversity and nature's contributions to people. The LIFE Institute has developed a set of methods and criteria that businesses must meet to qualify for LIFE certification. These criteria are tailored to different sectors and industries, considering the specific environmental challenges and opportunities faced by each sector. To achieve certification, businesses undergo a thorough assessment process by independent third-party auditors, who evaluate their performance against the LIFE standards. This assessment includes habitat conservation, species protection, water and soil management, and promoting sustainable land use practices. By promoting the positive contributions of businesses to biodiversity, the LIFE certification

scheme encourages a more holistic approach to sustainability that integrates biodiversity conservation into business strategies and operations.

### 6.3.4. Technology and data

#### 6.3.4.1. Data collection and use

In most jurisdictions, government agencies – ordinarily across all levels of government – collect biodiversity data as part of their baseline or monitoring requirements. Biodiversity baseline assessments are usually required if an area is to be gazetted as a protected area. As such, data collected may relate to general biodiversity information such as vegetation cover and type or to more specific aspects such as species occurrence, diversity, nature's contributions to people and habitat characteristics. Other biodiversity-related data collected can include protected area boundaries, water quality data, soil type, and topography. The data collected through this exercise may then be collated and maintained in a database that may or may not be publicly accessed.

Civil society's involvement in improving monitoring and data availability is crucial for evidence-based decision-making and accountability. They often fill data collection and analysis gaps, advocate for transparency, and empower communities to participate in monitoring efforts. Civil society also plays a key role in developing effective monitoring strategies and verification systems, catalyzing participatory approaches to ensure that local knowledge and perspectives are integrated into biodiversity monitoring and reporting processes (Danielsen et al., 2014).

IPLCs can use measures of impact and dependence to track environmental change and leverage the knowledge of local ecosystems, given the appropriate investments in infrastructure. By using measures at operational level, IPLCs can contribute, under free, prior, and informed consent, to data collection, processing and storage and to biodiversity monitoring to help track real-time ecosystem changes and ensure that businesses protect biodiversity (Alessa et al., 2016; Brofeldt et al., 2018; Natcher & Brunet, 2020; Schmeller et al., 2017; Wilder et al., 2016). IPLCs can use such documentation to create databases and archives on Indigenous and local knowledge to safeguard their environmental and cultural heritage and share it for future generations (Powell, 2016). Indigenous and local knowledge systems include Indigenous sciences and technologies that often offer innovative and adaptive strategies that are finely tuned with the local environment (Sharma et al., 2009; Stigter et al., 2005).

Access to Earth observation technologies via remote-sensing or direct-contact tools can help IPLCs monitor land use changes and business activities affecting biodiversity in their territories (Maynard et al., 2010; Woodley et al., 2013). This data can be important for advocating for the protection of territories if they are suffering negative impacts, but also to flag positive impacts that management practices may have, especially with increasing interest in the traceability of products for more transparent sustainability disclosures (Giuliani et al., 2021; Sangha et al., 2019). It will thereby promote accountability and support more responsible sourcing of materials in the supply chain of businesses (e.g., commercial logging, agri-business, energy, and mining activities).

Access to technological tools can also help IPLCs conduct environmental impact assessments of business activities in their territories and participate in analyzing risks and opportunities (Álvarez et al., 2015; Toth et al., 2021; Al-Roubaie, 2010; Jokhu & Kutay, 2020). For this, there is a need to build or improve infrastructure that supports the use of technological tools by IPLCs, i.e., ensuring reliable energy, such as small-scale renewable energy sources, to operate equipment in remote areas or expand internet coverage to IPLCs' territories to facilitate data leveraging and communication (Budka, 2015; Nakamura & Chow-White, 2013; O'Donnell & Beaton, 2018).

Mechanisms of know-how and technology transfer that focus on long-term cooperations, e.g., the Bio-Bridge Initiative, established at the 12th meeting of the Conference of the Parties to the Convention on Biological Diversity, are also essential to assist IPLCs identify specialized knowledge and biodiversity-related technologies and facilitate their transfer.

#### **6.3.4.2. Standardization, metrics, and accounting frameworks**

Standardized metrics and protocols are needed in gathering data for reliability and usability. Biodiversity data can be linked with national economic accounts for mainstreaming biodiversity into economic planning and monitoring processes (King et al., 2021). The Ecosystem Accounting framework of the System of Environmental-Economic Accounting was adopted in March 2021 by the United Nations Statistical Commission as a statistical standard in biophysical accounts and as a recommendation in monetary accounts (Kervinio et al., 2023). These accounting systems can support measuring progress towards the goals and targets of the Kunming-Montreal Global Biodiversity Framework.

Standard setting bodies can develop accounting methods for measuring business value beyond profit valuation and financial materiality assessment to prevent greenwashing. As an example, the European Financial Advisory Group on behalf of the European Commission published the draft European Sustainability Reporting Standards, including the E4 reporting standard on biodiversity and ecosystems (EFRAG, 2022). The Global Reporting Initiative also promotes corporate accountability through the Biodiversity Standard GRI 101 to help organizations better understand how their decisions and business practices lead to biodiversity loss throughout their operations and value chains and provides support to comprehensively disclosing and managing their impacts (GRI, 2024).

#### **6.3.4.3. Decision support tools and repositories**

Governments and civil society can consequently provide reliable and robust biodiversity data to be utilized by businesses and financial institutions to assess dependencies and impacts on biodiversity. For example, decision support tools (like the biodiversity forecasting toolkit) and science outputs to support the integration of the best available science into the development and implementation of policies and programs have been implemented by the New South Wales Government in Australia and are routinely used by a range of industry and community users and decision makers (Drielsma et al., 2014). Another example is Malaysia's one-stop repository database system, MyBIS, that provides and facilitates access to information on biodiversity studies and management in Malaysia (Qamruddin et al., 2023).

There is also great potential to co-develop tools with communities to ensure actionability and effectiveness (Mc Cartney et al., 2023). However, if the documentation turns Indigenous and local knowledge into new innovations owned by those who learned from IPLCs, it will be extractive and will not secure this knowledge for future generations. It is important that the research and documentation process respect the full and effective participation of IPLCs and the appropriate rights for intellectual property (Karmushu, 2024).

#### **6.3.4.4. Innovation in modelling**

Central banks and financial supervisors that have conducted assessments of nature-related financial risks can foster dialogue between businesses and financial institutions on the limitations of dominant modelling frameworks and encourage the development of alternative modelling approaches. The most often used economic models in assessments of nature-related financial risks – computable general equilibrium models – tend to downplay the economic impacts of biodiversity loss due to a number of assumptions and constraints, including the fact that they are not suited for short-term assessments, and that they assume a return to equilibrium, and that nature is fully or partially substitutable with manufactured capital (NGFS, 2023b). Another reason the economic impacts from

biodiversity loss are underestimated is the fact that the interactions between climate change and biodiversity are rarely considered in such modelling exercises.

A plurality of modelling approaches, including input-output modelling and ecological stock-flow consistent modelling, being used by the financial system would ensure that not only the long-term equilibrium macro financial impacts of biodiversity loss are assessed but also their short-term aftermath (Kedward & Poupard, 2024). These approaches could support businesses in understanding their impacts and dependencies on biodiversity.

### **6.3.5. Capacity and knowledge**

#### **6.3.5.1. Training, education and capacity building**

Governments can provide training and education programmes for sharing biodiversity-related information and building capacity in managing and using biodiversity data in business operations and practices. Many companies currently rely on external consulting organizations for environmental impact assessments and biodiversity monitoring techniques and training (Stephenson et al., 2022), but this can be costly. Czett et al. (2024) and Kopnina et al. (2024) emphasize the role of government for capacity-building efforts in conservation, stressing the importance of education, public awareness campaigns, and community outreach programmes to help society understand the interconnectedness of environmental and social issues and foster a conservation ethic that promotes sustainable living. This role also ensures business' capacity in handling biodiversity-related issues. For example, to improve the productivity and sustainability of the agricultural sector, the Kenyan government, through the Agricultural Sector Development Support Programme in collaboration with international donors and local organizations, includes capacity-building components such as training farmers in modern agricultural practices, providing technical assistance, and supporting the development of agricultural cooperatives (Czett et al., 2024).

International financial institutions can provide capacity building and technical assistance, working with governments to develop regulatory frameworks that require businesses to incorporate biodiversity and nature-related metrics into their operations. International financial institutions can enhance the capacities of companies in biodiversity conservation efforts and accounting by providing targeted loans or grants for companies committed to biodiversity conservation or restoration, and they can mainstream biodiversity by promoting natural capital accounting in national and corporate accounts (World Bank - IEG, 2024). Public development banks can support capacity by promoting the mainstreaming of biodiversity, for example by developing ambitious institutional commitments for nature-positive investments (WWF & The Biodiversity Consultancy, 2021).

Civil society plays a key role in educating consumers on the implications of their purchasing decisions. This action involves providing information on how products or services contribute to or mitigate biodiversity loss, empowering consumers to support businesses with positive environmental practices. For example, civil society organisations are instrumental in promoting sustainable agricultural practices. They provide training and capacity-building opportunities to farmers, empowering them with the knowledge and skills needed to adopt sustainable practices. These training programmes often focus on organic farming, agroforestry, integrated pest management, and conservation agriculture, which promote ecologically sound farming methods while maintaining or improving crop yields (Anuga et al., 2020; Davila et al., 2024).

To bridge the gap between traditional knowledge and modern tools, it is essential to establish programs that provide IPLCs with access to technology and expertise to use tools for measuring biodiversity and assessing business impacts. For example, training in data collection, analysis, and the use of relevant software and hardware can equip community members with the skills to monitor and manage natural resources on their territories effectively (Toth et al., 2021; Al-Roubaie, 2010;

Jokhu & Kutay, 2020). Building capacity can facilitate the use of new technology and tools by IPLCs to measure business impacts and dependencies on biodiversity. It can also support opportunities for businesses to broaden their capacity-building programs to include diverse values and cultural competencies by collaborating with IPLCs. Additionally, businesses and educational institutions can create spaces for the inclusion of diverse values and cultural competencies in mainstream education and development programs (Suarta et al., 2022). These programmes can also ensure that youth are involved in decision-making spaces and that knowledge transfer between generations is facilitated through schooling processes that respect and incorporate land-based learning with elders, thus preserving biocultural heritage (Fernández-Llamazares et al., 2021; Sarigumba et al., 2023).

#### **6.3.5.2. Stakeholder engagement and mutual learning**

Civil society possesses valuable networks and expertise in engaging IPLCs, supporting their knowledge-based land management approaches, and ensuring that their voices are heard in business decision-making processes related to biodiversity conservation. Civil society can also promote other stakeholder engagement, including government, non-governmental organisations and academia, allowing businesses to gather diverse perspectives. By facilitating dialogues between businesses and these stakeholders, they can ensure that the interests and concerns of all parties are considered in the decision-making process. This engagement is key to the success of actions on the ground, including, for example, the promotion of sustainable agriculture by improving productive practices and planning for and implementing ecosystem restoration projects (Blesia et al., 2021; Murphy & Arenas, 2010).

IPLCs are vital actors when considering building capacity on intercultural competencies, and businesses can benefit from involving these communities in their training programmes (Jonas et al., 2014). To enable such collaborative actions between communities and businesses around capacity-building, it is critical to support the knowledge of place-based biodiversity within IPLCs' traditional systems, particularly considering the challenges to the continuity and dynamism of these systems (Fernández-Llamazares et al., 2021).

Understanding, respecting and learning from the world views and values of IPLCs can help scaling up successful stories of biodiversity conservation in IPLCs' territories (Carling, 2024). For example, after years of council and open-house meetings with Indigenous and non-indigenous participants and learning of each other's practices, the Tla-o-qui-aht First Nation, in Canada reached an official protocol agreement with a local salmon farm business to create a harmonized operational environment using an approach that respects the community's guiding principle of *Hishuk ish ts'awalk* (Huemer, 2017). In the protocol, the business model is based on practices that are considered sustainable by both the First Nation and the company, and the Tla-o-qui-aht People engage in regular meetings and have a say in future development.

Respect is essential as a basis for mutual learning, and it is important to guarantee that this exchange does not place undue burden on IPLCs or lead to the appropriation of their knowledge. True mutual learning fosters collaboration based on equal partnership, where both parties contribute and learn from one another, while ensuring that IPLCs' knowledge remains protected and used in accordance with their wishes and customary law (Jonas et al., 2014).

#### **6.3.5.3. Knowledge retention, empowerment and rights**

Traditional knowledge systems are increasingly threatened by external forces such as land encroachment, resource exploitation, and the erosion of cultural heritage. Therefore, it is important to establish education and empowerment programs that raise awareness of Indigenous rights, and also other applicable rights of local communities, enable informed decision-making, and promote active participation in business and conservation activities (Williams, 2018; Zanotti & Chernela, 2008). Such approaches can lead to better business decisions, for example in Botswana, a country that



experiences frequent unplanned fires, a community inclusive fire management strategy has been developed that focuses on fire prevention (Dube, 2013).

It is crucial to emphasise that rather than 'capacity building' in the traditional sense of teaching new skills and values, the focus should be on empowering these communities to retain and strengthen their own knowledge systems and governance structures. The term 'capacity-building' is often misused when referring to IPLCs. These communities already possess significant capacity, rooted in their deep understanding of local ecosystems, biodiversity, and sustainable practices. Support is required to maintain, protect and further develop this capacity, especially in the face of the ongoing external pressures.

As seen in the example of a community in Kenya, Indigenous elders without formal education were able to establish a renowned and successful lodge, demonstrating not only their business acumen but also their ability to use traditional knowledge in a modern context (Karmushu, 2024). The community made strategic decisions, including hiring external expertise when needed, yet they retained control over the development and governance of the lodge. This case illustrates that capacity building in business management can be also strongly linked with empowering communities to manage resources on their lands.

## 6.4. Barriers to action

Significant barriers towards an enabling environment for businesses include, but are not limited to, misalignment of objectives between actors, short-termism, siloed or ineffective governance, lack of political priority for biodiversity, power asymmetry between actors, lack of recognition of Indigenous rights and other rights of local communities, limited technical and financial resources, and uneven exposure to nature-related financial risks, which are detailed below. Addressing these barriers will be key for creating an enabling environment and enacting transformative change.

### 6.4.1 Misalignment of objectives between actors

Cross-sector partnerships are institutional arrangements designed to integrate complementary competencies and resources across businesses, civil society, and governments (Austin & Seitanidi, 2012, 2012). While cross-sector partnerships are increasingly recognised as essential for addressing global economic, social, and environmental issues, inconsistencies across these arrangements create barriers to their effectiveness (Nicholls & Huybrechts, 2016; Saz-Carranza & Longo, 2012; Vogel et al., 2022; Vurro, & Dacin, 2014). Business and civil society partnerships have become increasingly common as organizations seek to address complex societal issues that require collaborative efforts (A. C. F. Aguiar et al., 2023). These partnerships combine the resources, expertise and influence of the private sector with the grassroots reach and social mission of civil society organizations. However, despite their potential, these collaborations often face significant challenges that can impede their effectiveness.

Business and civil society partnerships can face challenges due to their differing objectives regarding economic profits (Addy & Dubé, 2018; Ahmadsimab & Chowdhury, 2021; Yin & Jamali, 2021). This misalignment can hinder collaboration and compromise the effectiveness of solutions. Businesses typically operate with the primary goal of maximising economic profits. This profit-driven motive influences their decision-making processes, strategic planning and resource allocation. On the other hand, civil society organizations are usually mission-driven, focusing on social, environmental, or humanitarian goals. Their primary objective is to create a positive social impact, often prioritising long-term sustainability and community well-being over immediate financial returns. This misalignment of objectives between businesses and civil society organisations can create several obstacles to effective collaboration, such as:

- **Conflicting priorities:** businesses may prioritise projects that promise short-term financial returns, while civil society organizations may focus on initiatives that yield long-term social benefits. This divergence can lead to disagreements over which projects to pursue and how to allocate resources.
- **Different resource allocation:** businesses may have substantial financial resources but could be less willing to invest in initiatives that do not directly contribute to their bottom line. Conversely, civil society organizations might struggle with limited funding and rely heavily on partnerships to advance their mission. This disparity can cause friction in determining the scale and scope of collaborative efforts.
- **Different decision-making processes:** the decision-making frameworks in businesses and civil society organisations often differ. Businesses may employ hierarchical, top-down approaches, while civil society organizations favour participatory, consensus-driven processes. These differing approaches can slow decision-making and hinder implementation of joint initiatives.
- **Lack of common performance metrics:** businesses often measure success through financial indicators such as revenue growth, profit margins, and return on investment. Civil society organizations, however, assess their impact through social metrics like community engagement, environmental sustainability and public health improvements. The lack of

common performance metrics can make evaluating the overall success of any potential partnerships between business and civil society difficult.

#### **6.4.2 Short-termism**

Politicians and policymakers often face pressure to deliver quick results and show immediate progress to gain public support or meet short-term political goals (Böhme, 2023). This can result in policies and decisions that prioritise short-term benefits over long-term considerations, which may create uncertainty for businesses and hinder long-term planning and investment in sustainable practices and technologies (Paulson Jr., 2015). Short-term thinking often neglects the importance of biodiversity conservation, which can then have severe consequences for biodiversity and nature's contributions to people.

Investments needed to protect and restore biodiversity are typically long-term and provide low or no returns in the short-term. Such investments do not therefore lend themselves to private investments (Kedward, zu Ermgassen, et al., 2023). An additional challenge is the lack of investable, scalable nature recovery projects; there is not a similarly straightforward and scalable investment strategy as there is for investing in renewable energy as part of climate mitigation efforts, for example. Against this backdrop, and due to the fact that many environmental 'externalities' remain largely unpriced (S&P Global, 2024), the ways in which private actors can naturally seek to generate returns to protect an ecosystem can lead to environmentally and socially suboptimal outcomes. For instance, private businesses and financial institutions may be tempted to generate rents to protect ecosystems (e.g., charging high fees to local communities or tourists for protecting an area) (Stratford, 2020). Moreover, depending on external variables such as the regulatory environment, private actors may still find it more efficient to deplete an ecosystem than protect it (for instance, based on standard economic theory, if interest rates are high, it may be more profitable to deplete a resource and place the returns in financial products with high interest rates).

#### **6.4.3 Siloed or ineffective governance**

Political instability around existing legislation, including governmental bureaucratic hurdles have been reported to be a challenge especially at the local level. Government initiatives are important to promote biodiversity actions, and some countries have designed and implemented policies that seek to regulate the environmental performance of the private sector (D. Aguiar et al., 2023).

Incoherent governmental actions exist, such as biodiversity-harmful incentives like pesticide, fertilizer and energy subsidies (e.g., for fossil fuels) (OECD, 2022) and when considering conflicting interests of multiple sectors, biodiversity is often accorded low priority (Pröbstl et al., 2023). Transformative national planning needs to overcome institutional lock-ins and empower agencies to develop innovative solutions to halt and reverse the loss of biodiversity and achieve the goals and targets of the Kunming-Montreal Global Biodiversity Framework (Pröbstl et al., 2023). Accountable governance requires leadership and social capital to organize an actor network in cooperative and complementary governance functions (Pröbstl et al., 2023).

#### **6.4.5 Lack of political priority for biodiversity**

According to Rydén et al. (2020), the electorate may have diverse and sometimes conflicting priorities when it comes to policy issues, including biodiversity conservation. They recognize that while democracy provides opportunities for citizen involvement and participation in decision-making, it can also lead to short-term focus and conflicting priorities that may hinder long-term conservation goals. In combination, political short-termism and inconsistent demands from the electorate may give rise to nationalism and a move away from multilateralism.

While coordinating with governments could make it easier for businesses to shape corporate and financial behaviours toward greener outcomes, this could also lead to trade-offs between the primary mandates of price and financial stability and the goal of enabling an ecological transition over the medium term (Dafermos, 2021; Maurin et al., 2022; Oman et al., 2024). Moreover, actions may be more difficult to implement in developing countries, given the hierarchical nature of the international monetary and financial system. Indeed, the latter is characterized by a hierarchy of currencies, dominated by currencies from high-income countries, which makes it difficult for developing economies to attract the long-term funding they need to finance their ecological transition (Svartzman et al., 2023; Svartzman & Althouse, 2022), while often forcing them to resort to short-term, export-led strategies based on agricultural commodities and natural resources (Vernengo, 2016).

#### **6.4.6 Power asymmetry between actors**

There is disparity between corporate and environmental lobbying efforts and the sophisticated tactics used to shape legislative outcomes, as evidenced in the climate change legislation lobbying in several jurisdictions. Brulle (2018) concluded that lobbying involves various tactics beyond direct efforts, including funding think tanks and public relations campaigns, influencing decision-makers' perceptions and the political environment, where over \$2 billion was spent on climate change lobbying in the United States of America Congress, making up 3.9 per cent of total lobbying expenditure from 2000 to 2016. Although this is the case, studies have also concluded that environmental lobbying is more effective in countries with higher levels of corruption, and that support for environmental lobby groups in such countries may be particularly effective (Fredriksson et al., 2007).

There is significant evidence that private businesses and financial institutions can use lobbying strategies to block transformative change (Folke et al., 2019; Lucas, 2021; 'UN Plastics Treaty', 2024; Viridin et al., 2021). This was also evidenced in the exclusion of financial actors from the European Union Corporate Sustainability Due Diligence Directive and Deforestation Regulation (EIRIS Foundation, 2024). This barrier can be overcome, for example by, mandating the disclosure of lobbying activities by corporates and financial actors and empowering and funding civil society and investigative journalism. In addition, vague and unsubstantiated claims of transformation may fail to deliver clear positive outcomes or may delay and distract from more tangible actions to mitigate corporate footprints (Booth et al., 2024). Recommendations or standards are needed on how companies' actions can be structured and prioritized to promote integrity and innovation with SMART targets (i.e., specific, measurable, assignable, realistic and time-bound), while effectively preventing greenwashing (Booth et al., 2024).

While partnerships between civil society and businesses have the potential to address complex social and environmental issues, the inherent differences in economic scale and resource availability can create imbalances that undermine the effectiveness and sustainability of these collaborations. This asymmetry could include:

- Economic scale differences: one of the primary sources of power asymmetry is the disparity in economic scales between civil society organisations and businesses. Businesses typically have access to substantially larger financial resources, which they can leverage to influence the direction and outcomes of collaborative efforts. This financial dominance can lead to civil society organizations becoming dependent on business funding, which can affect their autonomy and ability to act independently (Gray et al., 2022).
- Funding dynamics and dependency: funding from businesses to civil society organisations is often crucial for the latter's operations. However, this financial dependency can create a power dynamic where businesses carry considerable influence over the activities and priorities of civil society organizations. Such funding relationships can erode the partnership's foundation,

as the more powerful business entities may impose their agendas, potentially sidelining the original mission and values of the civil society organizations (Al-Tabbaa et al., 2014; Ashraf et al., 2017).

- Undermining collaborative processes: the imbalance in resources and influence can significantly undermine the process. When one party holds a disproportionate amount of power, the partnership risks becoming unidirectional, where the business sector's priorities overshadow the goals of civil society. This can lead to a misalignment of objectives, where the initiatives pursued may not fully address the issues at hand or reflect the needs and perspectives of the communities that civil society organizations represent (Gray et al., 2022).
- Impact on shared goals: power asymmetry makes achieving shared goals challenging. The success of collaborative efforts hinges on equal participation and mutual respect between partners. When civil society organizations are not equally empowered, their contributions may be undervalued, leading to less innovative and effective solutions. This imbalance can also foster mistrust and reduce the willingness of civil society organizations to engage in future collaborations, further diminishing the potential for long-term positive impacts (Gray et al., 2022)

While the differing objectives and power asymmetry among businesses and civil society organizations pose significant challenges to partnerships, these obstacles are not insurmountable. Businesses and civil society organizations can create effective collaborations that leverage their unique strengths by adopting strategies that promote alignment and mutual understanding. Investing in the development of clear institutional arrangements for partnerships between civil society organizations and businesses is one way to address these barriers to action. This involves establishing common goals and collective performance metrics, ensuring decision-making processes that recognise sectoral differences in motivators and practices, and mitigating the risks that these differences pose to collaboration. These institutional arrangements are best documented in an action plan to guide collaboration, promote transparency and ensure mutual accountability.

#### **6.4.7 Lack of recognition of Indigenous rights, and other applicable rights of local communities**

Governments and legal systems often inadequately recognise custodianship over traditional lands and resources due to a lack of recognition of rights, which undermines their ability to use measures of business impact and dependence related to their communities (Stevens et al., 2016). Additionally, IPLCs are frequently neglected in the development and implementation of national legislation and policies on business activities, leading to insufficient safeguarding of rights and interests, perpetuating systemic disparities and hindering IPLCs' representation in decision-making procedures (Girard et al., 2022). Businesses operating within IPLCs' territories and in regions with fragile legal structures for Indigenous rights, and other applicable rights of local communities, might encounter legal ambiguity and contribute to land conflicts and environmental degradation, which can adversely affect their social legitimacy to operate, risking reputational damage and long-term sustainability objectives (Franks et al., 2014). Implementing equitable governance mechanisms based on equal partnership or primary control for IPLCs, i.e., recognizing and respecting all relevant actors' knowledge and diverse values, rights to ancestral territories, and cultural practices as well as ensuring full and effective participation in decision-making, will likely enhance positive ecological and social outcomes (Dawson et al., 2024).

Limited documentation of territories, land, and water that belong to IPLCs can create significant challenges for biodiversity conservation and sustainable development efforts by businesses. The absence of documentation can make it difficult for IPLCs to assert their rights and negotiate with external stakeholders like businesses (Sajeva et al., 2019) as the systems in place often do not enable other forms of knowledge transmission, such as oral tradition, to be valid (Anderson et al., 2022).

Additionally, businesses that depend on these resources may face uncertainties and interruptions in their value chains, adversely affecting their operations. Beyond documentation, Indigenous stewardship is important, so that any documentation in place follows free, prior and informed consent principles for sharing and accessing Indigenous knowledge (IPBES, 2024b). Supporting the strengthening and creation of knowledge centres owned and managed by Indigenous communities can enhance the preservation of traditional knowledge through songs, language, stories and traditions, while also contributing to the wider global community (Pilot, 2005).

When measuring impacts and dependencies, the exclusion of IPLCs from research and development can slow down the progress towards creating appropriate solutions for biodiversity conservation and sustainable development (Powell, 2016). IPLCs have a deep understanding of local ecosystems that can inform decision-making based on evidence and enhance the effectiveness of conservation efforts, as learning by doing and practicing has been the best traditional knowledge transfer system within IPLCs (Karmushu, 2024). Businesses and research institutions can benefit from addressing and working with Indigenous and local knowledge, prioritising IPLC-led research initiatives and meaningful participation of IPLCs in research agendas and projects. By doing so, this can ensure more inclusive and culturally sensitive approaches to environmental management.

#### **6.4.8 Limited technical and financial resources**

Karlsson-Vinkhuyzen et al. (2018) reported a lack of technical knowledge, time and financial resources as barriers to mainstreaming biodiversity into economic sectors that have significant impacts on biodiversity, especially the agriculture, forestry and fisheries sectors. Many studies describe the different biodiversity policies in place, however, only a few studies examined policy instruments and performance using measures of dependence and impact on biodiversity to promote and evaluate business actions and performance. When they do, this is restricted to just a few industries, such as agriculture, forestry, and fisheries (Table 6.3).

IPLCs often face financial constraints and lack opportunities to preserve, perpetuate, and develop their systems of knowledge transmission. Businesses can financially support communities to implement sustainable development initiatives and biocultural conservation efforts. These investments will enable IPLCs and businesses to collectively invest in ecosystem restoration and adapt to the impacts of climate change (Bruhn & Love, 2014; Swiderska & Argumedo, 2022). Limited access to services in remote areas creates major barriers for IPLCs, particularly in remote areas where delivering financial services is logistically complex (Gilroy et al., 2021). The absence of supportive legal and policy frameworks further constrains the entry of alternative insurance providers, while businesses often cannot use community-oriented insurance models. Designing insurance products that align with IPLCs' cultural and social norms is essential for their acceptance and effectiveness (Van Gevelt et al., 2017). The insurance industry can develop tailored products, such as micro-insurance or social insurance models, to mitigate risks associated with IPLCs' unique contexts. These products could cover healthcare, crop failures, natural disasters, or unexpected personal expenses, helping IPLCs manage immediate risks without resorting to land sales or exploitation of protected areas. Addressing this gap requires an integrated approach that considers the socio-economic, environmental, and political dimensions of IPLCs' vulnerability (Van Gevelt et al., 2017).

#### **6.4.9 Uneven exposure to nature-related financial risks**

While the argument that climate change and biodiversity loss pose 'systematic portfolio risks' (Bauer, 2022) to highly diversified financial actors is becoming increasingly popular, it is important to remember that there are notable differences between the risks that environmental degradation poses to societies, economies, individual financial actors, and financial stability at large. Exposure to nature-related financial risks is unevenly distributed (Prodani et al., 2025), and this constitutes an important

barrier to action. The portfolios of the biggest three asset managers, for example, are increasingly invested in large companies in the technology and financial sectors in the global North, not in primary producers in the global South (Bonizzi & Kaltenbrunner, 2024; Gibadullina, 2024; Prodani et al., 2025).

In some cases, organizations may wait for the nature-related risks or shocks to materialize and then take reactive action (BCBS, 2023; EBA, 2024). A fundamental complication here is that, like with climate, large uncertainties exist about the future physical developments, like tipping points, and their interactions and potential cascading effects (Marsden et al., 2024). Economic models are ill-equipped to take such effects into account (Maurin et al., 2022; Trust et al., 2023). Given the radical uncertainty and significant potential harm associated with nature-related risks, a more precautionary approach may be necessary, which involves working proactively and acting with incomplete information. The constitutional basis of the European Union is supportive of this course of action, with Article 191(2) of the Treaty of Lisbon stating: “It [EU policy on the environment] shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay”. This precautionary principle is not broadly implemented to protect biodiversity, especially by those who guard prices and financial stability (Kedward et al., 2020). A precautionary approach, however, can be legally contested on the basis that interventions in the market must be tied to robust evidence. Increasingly, emerging ‘alignment-based’ approaches (Van ‘T Klooster & Prodani, 2025) focused on transition planning promise to chart a middle path between a precautionary approach and the dominant approach that requires precise quantifications of the probability of losses.

In addition, decision-making at the microeconomic scale does not naturally lead to the common good at a broader scale. For example, a sound risk assessment conducted by a private insurance company indicating that a region is particularly vulnerable to physical hazards could lead the company to stop insuring activities and businesses in this region or increase the cost of insurance; while this would be an efficient decision at the microeconomic level, it would leave the region even more exposed to the costs of physical hazards at the macroeconomic level (Bolton et al., 2020; Dafermos, 2021; EIOPA, 2023). This underscores the limitations of self-regulation and regulation based on risk disclosure alone and the need for regulations that protect the public interest and promote an allocation of capital in line with environmental policies.

## 6.5. Knowledge gaps

A set of knowledge gaps in knowledge and data can be identified from the assessment of the evidence associated to the creation of an enabling environment for businesses by diverse actors. A summary of these gaps is presented in **Table 6.4**.

**Table 6.3. Knowledge gaps**

Category	Chapter/ section	Knowledge gap
Knowledge and data	6	Data from remote sensing tools and technology for monitoring land use change and business activities affecting biodiversity.
Methods and approaches	6.3	Approaches within environmental impact assessments to incorporate traditional knowledge.
Knowledge and data	3	Knowledge among the business community of the diverse contexts and specific characteristics of various IPLCs. This includes not only their distinct cultural, ecological, and historical aspects, but also their unique livelihoods, worldviews, and traditional practices.
Knowledge and data	6.2.2	Knowledge, data and documentation on Indigenous rights, and other applicable rights of local communities and knowledge on benefits arising from using genetic resources, under free, prior and informed consent, including traditional knowledge associated with genetic resources in some regions globally.
Policy-relevant studies	6.3	Studies of species that are important to IPLCs including plants, animals and materials integral to IPLCs cultural practices, under free, prior and informed consent.
Knowledge and data	6.4	Independent studies on the effectiveness of certification programs, and barriers to distribution of benefits to local communities.
Knowledge and data	6.4	Studies on the environmental outcomes achieved by changing human behaviour, especially consumer choice on improving biodiversity.
Policy-relevant studies	6.3	Studies on case studies of national policies that enable closer partnership for collaboration between civil society and businesses.
Policy-relevant studies	6.2.1	Studies on the role of the financial system to go beyond financing which reduces greenhouse gas emissions and addresses evidence on the efficacy of shifting financial flows away from industries that harm biodiversity and which



		consider how investments drive biodiversity degradation.
Knowledge and data	6.2.2	Time-series data over sufficiently long periods to show the effect of changes to monetary policy and climate or biodiversity related outcomes across national and sub-national economies.
Knowledge and data	6.3	Studies on the attitudes towards blended finance.
Policy-relevant studies	6.3	Studies which examine biodiversity policies based on evidence using measures of dependence and impact to biodiversity to promote and evaluate business actions and performance.
Policy-relevant studies	6.3	Studies about economic and financial instruments based on evidence using measures of dependence and impact to biodiversity which go beyond well-studied industries such as agriculture, forestry, and fisheries.

## 6.6. References

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