



Mainstreaming the Topic of Biodiversity in Corporate Sustainability Management

Experience and Recommendations from
the 'Biodiversity in Good Company' Initiative



©Arigatou Gozaimasu/Shutterstock

Our natural capital is under pressure: the loss of biodiversity is continuing at alarming speed – with regionally very strongly differentiated consequences. This is associated with high risks because human well-being is existentially reliant on intact ecosystems. Biological diversity is both part of our “natural capital” as well as the prerequisite for numerous ecosystem services.

The current strategies for the preservation and sustainable use of biodiversity on a national and international level are aimed at the year 2020. Within the framework of the Convention on Biological Diversity (CBD), the international community agreed on a strategic plan and 20 objectives in 2010: the Aichi Targets. A number of important half-life evaluations took place

worldwide in 2015. The interim balances conclude that the targets set so far will be missed by a long way if much more ambitious steps are not implemented.

One of the reasons: Unlike other political, societal and business interests, biodiversity goals still frequently have little clout in evaluation and decision making processes. This concerns basic questions of policy development and control in a number of policy areas: such as agriculture and forestry, future housing and transport development, energy and climate policy, resource and raw materials strategies, marine policy, and the financing of global nature conservation and biodiversity protection. “Mainstreaming biodiversity” – taking into consideration the values of biodiversity and func-

tioning ecosystems in all critical sectors and policies – is therefore the topic of the 13th Conference of the Parties to the CBD in December 2016 in Cancún, Mexico.

Businesses are indispensable players in all sectors, and must help find solutions within their scopes of action. Mainstreaming is therefore also important in companies and industry decision-making processes. What prerequisites and agendas need to be set for this mobilisation to succeed? As the ‘Biodiversity in Good Company’ Initiative, we are using CBD-COP 13 as a trigger to compile our experience and recommendations. We focus our attention on decision makers in companies, politics and society who play a part in reaching the ambitious Aichi targets in joint efforts. In

particular, we call on companies to integrate biodiversity within their business activities and actions, and to provide an insight into success factors, as well as challenges in their effective realisation.

The ‘Biodiversity in Good Company’ Initiative was founded in 2008 as a pan-sectoral excellence initiative of companies committed to the preservation and sustainable use of biodiversity as part of their corporate strategies. The aim is to raise the awareness of businesses and industry as a whole for their responsibility, and to strengthen biodiversity as a management issue. We speak from the perspective of companies working in the industrial, trading and service sectors.

At a glance: Summary

As the 'Biodiversity in Good Company' Initiative, our ambition is to raise the awareness of companies for the importance of biological diversity world-wide. Against the background of CBD-COP 13, we have summarised our view of how this topic can be advanced further.

■ Our work is based on the **core beliefs**, which we wish to pursue by setting good examples and in recognition of the planetary limits – because nature conservation demands action beyond the boundaries of protected areas. We wish to strengthen biodiversity as a management topic, taking into consideration the whole value chain, and set the course for sustainable consumption.

■ We share our **experience and estimates of what has been achieved so far:**

The breadth of the debate has helped raise the awareness of the problems and increased the willingness of industry to act. Unlike only a few years ago, companies are now better able to understand which parts of their business activities they have to address in terms of biodiversity management in order to make a difference. Land use along the whole supply chain has been identified as a key factor here, and therefore needs to be considered as a priority as a cause of the loss of biodiversity. However, the absence of valorisation and incentives, as well as gaps in knowledge and databases, are a hindrance, and limit the room for manoeuvre in companies as well.

■ Our **recommendations for mainstreaming the topic of biological diversity in the business sector:**

More business self-initiative is possible and necessary

This involves integrating biodiversity within sustainability management, communications and reporting, and to play a bigger role in societal and political dialogue. Business associations should make use of their opportunities to act as multipliers. Many sectors have direct and indirect influences. Sector-specific approaches are required. Joint activity is needed to establish a better knowledge base, good practise and standards along the whole of each value chain. Despite the enormous complexity of the challenges involved, there are still numerous opportunities for low-level action, as well as many means of becoming socially involved.

Political support for corporate action

Political decision makers can integrate business players more specifically than at present. The national and international biodiversity targets can only be achieved by mainstreaming biodiversity via the integration of biodiversity targets in sector policies. The willingness of downstream sectors to make the necessary moves is influenced by whether these sectors recognize a political will to act by taking effective measures in key sectors, such as agriculture. New legal possibilities for „temporary nature“ could also open up new potential. In addition, public procurement is another strong lever at the disposal of policy makers.

Make visible and honour the value of natural life support systems

It makes sense to get across the biodiversity targets using the natural capital and ecosystem services approach, and to use these arguments to strengthen the targets. The „valorisation“ of biological diversity should be intensified at a macroeconomic and corporate level. Changing direction could be speeded up significantly by more signals coming from the financial sector.

Improved data availability and decision-making expertise

Collecting data and making it accessible is still a challenge. Investments in science and research should foster risk and consequences research, and distributing the findings in an appropriate way for the target groups. In addition, better interfaces are required to express the scientific findings on biological diversity so that they are more easily understandable, and help politicians and company representatives to make better informed decisions.

Strengthen biodiversity as a topic of more comprehensive sustainable development

The 2030 Agenda for Sustainable Development provides an excellent opportunity of seeing biodiversity even more strongly within the overall context of sustainable development, and therefore to also reach economic players more intensely than today. This requires openness for a critical look at consumption and lifestyles.

Our core beliefs

Progressing by setting a good example

The 'Biodiversity in Good Company' Initiative forms a cross-section through a number of sectors, and stands for the message that the protection and sustainable use of biodiversity is of existential importance, and that businesses must play their part in safeguarding biodiversity. Industry shares responsibility for the rapid disappearance of biological diversity, but also has the potential to develop and implement effective measures to stop this effect. We actively take part in

dialogue with all societal stakeholders. In particular, we want to set good examples ourselves and motivate other companies to join in. The objectives can only be achieved through joint innovations and investments. Via their activities, companies can play a part in raising awareness externally and internally, and can roll out a comprehensive process of promoting awareness and the self-regulation of industry. As members of the 'Biodiversity in Good Company' Initiative, we voluntarily take on responsibility as front runners, and have signed a Leadership Declaration on biodiversity:

Leadership Declaration

All signatory companies acknowledge and support the three objectives of the international "Convention on Biological Diversity":

- **Conservation of biological diversity**
- **Sustainable use of its components**
- **Fair and equitable sharing of the benefits that arise out of the utilization of genetic resources.**

and commit themselves to:

1. Analyzing corporate activities with regard to their impacts on biological diversity;
2. Including the protection of biological diversity within their environmental management system;
3. Appointing a responsible individual within the company to steer all activities in the biodiversity sector and report to the Management Board;
4. Defining realistic, measurable objectives that are monitored and adjusted every two to three years;
5. Publishing activities and achievements in the biodiversity sector in the company's annual, environmental, and/or corporate social responsibility report;
6. Informing suppliers about the company's biodiversity objectives and integrating suppliers accordingly and step by step;
7. Exploring the potential for cooperation with scientific institutions, non-governmental organizations (NGOs) and/or governmental institutions with the aim of deepening dialogue and continuously improving the corporate management system vis-à-vis the biodiversity domain.

To demonstrate ongoing commitment, member companies will provide the Initiative with a progress report every two years. Have a look at the member companies' progress reports under <http://www.business-and-biodiversity.de/en/about-us/members/progress-reports/>



© Atropos Images/Fotolia

© srckomkrit/Fotolia

Accepting planetary limits

Our understanding of sustainability includes accepting planetary limits. Economic and social targets for sustainable development and productivity can only be achieved within the limits of the ecological capacity of the earth. Ecosystems are efficient and adaptable, but there is a limit to what they can tolerate. The innovative power of businesses is indispensable in the search for new solutions for sustainable consumption and production patterns.

Taking action beyond protected areas

More than 80 % of the earth's surface does not enjoy protected area status, and this situation is very likely to remain unchanged in future as well. Biodiversity can only be effectively preserved when the room for manoeuvre of industry and society in all the "normal areas" has been harnessed to the full. This involves sustainable land use in all land forms, limits to emissions, more efficiency and effectivity in the utilisation of raw materials and natural resources – e. g. within a recycling economy – and treating nature in an environmentally-friendly manner overall.

Strengthening management and taking into consideration the whole value chain

It is crucial for industry and each economic sector to develop their own management approaches, and measurement and control instruments, to enable companies to make an effective contribution to the protection of biodiversity. The aim here is to apply the leverage available at the locations as well as within the value chains. Beyond taking action in the business models, companies can support nature conservation projects in a wide variety of ways as part of their social commitment.

Strengthening sustainable consumption

We hope and trust in a growing demand from consumers for sustainable, biodiversity-friendly products and services. We want to play a part in establishing frameworks for promoting more sustainable consumption, and are ambitious about developing an attractive range of products and services.

Where we stand: Experience and progress so far

The awareness and willingness of business to act have grown

Many developments reveal a growing awareness of the problem that something must be done to reduce the pressure on natural life support systems. Nature and species conservation has already been a relevant topic for many decades in some sectors, such as the pit & quarry industry. Since the CBD conferences in Germany (2008) and Japan (2010, strategic plan adoption), as well as the CBD obligations for national biodiversity strategies, there has been a much more intense dialogue with and within industry. National and international platforms have been created: such as the 'Biodiversity in Good Company' Initiative; the German business association platform "Enterprise Biological Diversity 2020" (UBi 2020); the EU Business@Biodiversity Platform; and the CBD Global Partnership for Business and Biodiversity.

The efforts involved in protecting biological diversity are closely associated with strategies to preserve natural capital and ecosystem services. The ecosystem services approach has proven to be an important argument for winning over hearts and minds. It embodies the perspectives of human wellbeing as well as economic benefits. High levels of biodiversity are an important prerequisite for the effectiveness and resilience of nature.

The issue needs a great deal of staying power because its many facets make it difficult to become incorporated within business processes. But the first buds of success are already visible: via public relations measures – in which we also play a part as a network – many sectors are increasingly looking at their roles. A crucial success factor is customised and convincing information which elaborates the relevance for a company's own business model – a business case – and highlights what companies can do specifically within their own sectors.

The options for companies to take action in the cross-cutting issue that is biodiversity are better understood

Biodiversity is species diversity, habitat diversity, genetic diversity – nature with all of its intrinsic dynamics. Significant progress has been made in recent years in presenting these complex challenges to make them more understandable for businesses, to break them down into practical approaches which can be implemented, and thus to integrate them within sustainability management.

A crucial factor here has been to more clearly highlight the cross-cutting character of „biodiversity as a management topic“. It has also been clearly demonstrated that biodiversity cannot be visualised in simple input-output metrics for corporate management, and in the same way, cannot be reflected by a single metric or control parameter.

In reality, it involves a mix of approaches covering environmental and climate protection, combined with other nature protection measures in the form of habitat conservation (as well as habitat re-establishment or even multiplication). This mix is used to tackle the five main causes of the loss of biodiversity:

- Destruction/disruption of habitats (by changed use of land and water)
- Environmental pollution (emissions, nutrient immissions ...)
- Climate change
- Overexploitation of natural resources
- Spread of invasive non-endemic species.

The actual measures which are ultimately of importance vary from sector to sector. Biodiversity also necessitates spatially-differentiated action. The complexity of many global supply chains means that when companies configure their measures, they can only in a few instances evaluate the biodiversity in the specific location, and identify the specific interactions with their own business activities. The most practical approach is therefore often to use existing data and research in collaboration with partners along the supply chains,

to tackle the threats to biodiversity. In other words, to reduce known negative influences on biological diversity, and/or to strengthen the positive effects.

Via the approaches they take, the member companies of 'Biodiversity in Good Company' exemplarily demonstrate how to address their individual material issues and areas of action – paying tribute to direct and indirect influences, dependencies, opportunities and risks. The expertise on how the cross-cutting issue of biodiversity can be embedded in environmental and sustainability management has grown significantly, without it having been standardised however – insofar as standardisation is even possible given the individual nature of the conditions involved in each case. The periodic, publicly accessible progress reports issued by the companies provide an insight into the solutions, parallels and differences.

Land utilisation along the value chain identified as a key factor

Biodiversity requires space and habitats, and is threatened by the deterioration and fragmentation of these habitats. Area use, the high pressures on land, and global soil and land use patterns (e.g. intensive agriculture, monocultures, certain types of natural resource extraction, etc.) are extremely significant for the "biodiversity footprint" of companies in many sectors.

This is the reason why – in addition to the land swallowed up by human settlements and transport – the production of natural resources in the primary sector, and particularly in agriculture, is in the centre of attention. The strategies of companies, as well as policy makers, are increasingly focusing on pulling these levers.

For those businesses working in the industrial, trading or service sectors, which not do primarily use land themselves, biodiversity is mainly a challenge within the context of their supply chains. They are increasingly analysing their value and supply chains, and configuring the measures along the context of the raw materials and natural resources they require, e.g. by supporting sustainable land use by using and promoting certificates and standards.

The room to manoeuvre is limited by the lack of valuations and incentives

Where the productivity of nature is used, it is often the so-called provisioning services of ecosystems – nature as a provider of nutrition, energy and raw materials – that are prioritised at the expense of other ecosystem services. Supporting services (e.g. soil formation, nutrient cycles), regulation services (e.g. for climate, air, water balances), and cultural services (leisure function, aesthetic aspects) are often public goods. As such, they cannot be traded on markets, have no price, and thus are undervalued both in terms of their economic benefits, as well as for their significance for human wellbeing. The consequences are external effects: ecological damage which is not costed into decisions, so that prices do not speak the "ecological truth". There is a disparity between private and social costs and benefits, or they are not considered in their shared context. From an overall economic perspective, state intervention is required if the failure of the markets is to be eradicated with respect to the provision of public goods.

Companies as well can only harness the maximum room for manoeuvre for sustainable development that competitive and market conditions allow. Enabling the external costs of the decline in biodiversity to be incorporated in overall political decisions, as well as in the costings of individual businesses, requires the existence of adequate incentives which honour this accordingly, and also legal minimum standards to avoid competitive distortion. High utilisation and target conflicts can only be resolved by value judgements from society as a whole, which define the direction to be taken, and the existence of coherent political frameworks.

The international and national TEEB studies (The Economics of Ecosystems and Biodiversity) have contributed to making the benefits of biodiversity and certain ecosystem services, as well as the costs of their loss, more visible economically. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) established in 2013, is also a step on the path to more knowledgeable decision making. It

remains open however, to what extent the knowledge which has been gained will become really effective in future as regards the development of legislation, business standards, and planning approaches, as well as taxation and other incentives.

Pro-nature investment decisions need good knowledge and databases

No one disputes the huge gaps in our knowledge about the valuation, functional relationships, status and trends of biological diversity – and particularly also the consequences of its loss. Analogous to climate change, many risks are difficult to calculate, such as the reaching of so-called tipping points which mark the start of the irreversible disruption of ecological systems.

Where there is uncertainty about the significance of the loss of biodiversity and ecosystem services for human wellbeing, this obviously makes decision making on investments in the sense of "ecological insurance" more difficult. The intrinsic values of nature are often not strong enough as an argument. The willingness to pay in the short term for a benefit whose probability is uncertain, and which lies in the future, is restricted. An important aspect here is that when nature is harmed, the beneficiaries and sufferers are often not identical.

The companies in the 'Biodiversity in Good Company' Initiative consider it to be prudent to act according to the precautionary principle, even when there are uncertainties involved, because this is necessary when dealing with many complex situations. Moreover, adequate information is available in many cases to differentiate in principle between good practise and not such good practise. Nevertheless, companies alone cannot develop the scientific basis and overriding protection goals needed for the necessary regionally differentiated measures, nor is it their responsibility to compensate for the general data shortages.

Do better – recommendations for mainstreaming the topic of biological diversity in business

To more intensely anchor the needs of biodiversity and the valuation of natural capital into business decision-making processes, it is necessary for initiatives promoted by industry to mesh more tightly with the conditions created by policy makers and society overall:

1 More proactive initiative from business is possible and necessary

Integrating biodiversity in sustainability management, communication and reporting

The preservation and sustainable use of biodiversity should be a firm part of the core business, communication with consumers and other stakeholders, as well as the reporting of all companies where it has a significant influence. Biodiversity is best understood here as a cross-cutting issue. It encompasses measures involving environmental and climate protection, combined with special nature conservation measures aimed at conserving or improving habitats, as well as the sustainable use of natural resources. Identifying the main issues in each case by way of a materiality analysis is a company and sector-specific job. The importance of preserving natural life support systems needs to be understood as a key argument for ambitious environmental protection.

Engaging in social and political dialogue

Various decisions on the topic of “Business Engagement” within the CBD speak directly to industry as a key player. Business should be involved in the dialogue more intensively than it has been in the past, and help establish or use the platforms required for this purpose. The United Nations’ new Sustainable Development Goals (SDGs) underline the CBD’s objectives on bio-

diversity and ecosystem services, and make clear how closely these are associated with economic welfare and human wellbeing.

Mobilising business associations as multipliers

In their role as multipliers, business associations are an important engine for competence development and raising general awareness of sector commitments. It is time for the associations to become more involved in the national and international biodiversity goals and to support their members in the elaboration and implementation of respective strategies, for instance by establishing platforms for information and showcasing projects.

Recognising pan-sectoral responsibility – sector-specific action

Sectors which have a direct impact on landscapes and habitats themselves, mainly primary industry, have a direct influence on biodiversity. In the case of all other companies, the main challenges are found in the supply chains. This means that their responsibility is connected to that of the primary sector – because the impact on the natural world arises from the production of natural resources and services in the various value

chains. Alliances along these value chains are required for effective action: companies acknowledge responsibility in the supply chain when they take an interest in what happens during primary production in the fields, in the woods, in the quarries, and in the waters – and work towards biodiversity-friendly production conditions within the bounds of their possibilities. Businesses should also seek access to this issue for their own benefits as well. The key aspect in this context is analysing the company’s own risks and its dependency on natural capital. Ideally it may also be possible to elaborate concrete economic benefits.

Better knowledge base, establishing good practise and standards

Exchanging knowledge in sectors and along value chains plays a key role. More knowledge transfer and bundling are required for the scaling of tried-and-tested methods and measures. The development of good practise, and ideally, also suitable indicators for various natural resources and types of land use are priorities here. However, most players are still right at the start of their learning curves, and standardised indicators are difficult to develop. Incentives to motivate individual companies to proceed voluntarily are largely absent. This is why the associations also have an important supporting function here as well. Amongst other things, they can help speed up the transport of the findings from research projects in the various sectors to the grass roots.

Using the opportunities of low-level measures

The question of feasibility and resources is an issue for small and medium-sized enterprises (SME) in particular. Moreover, they only have limited ability to exert an effective influence, especially along the supply chains. Nevertheless, low-level measures exist, and this applies to SMEs just as much as it does to large companies. Instead of launching a comprehensive strategy, companies can enter at a low level with specific aspects, e.g. by focusing on possible influences on biodiversity hot spots, protected areas, particularly valuable habitats, and protected species. Entry is also possible on a company’s own premises. And when it comes to the influence on the supply chain, it is often possible to identify particularly critical natural resources, if not obvious anyway, by a screening of procurement data.

Grasp opportunities for social involvement

Social involvement for nature conservation is not a substitution for acting responsibly in one’s core business activity, but it does supplement it effectively. Protecting nature, biodiversity and individual ecosystems costs money, which is not available from the public purse alone. Support from businesses in the private sector therefore often makes a valuable contribution to financing, and can even be essential to make projects viable in the first place, even though this should not diminish the responsibility of the state.

2 Political support for corporate action

Integrating business players in a target-group-centric way

To harness the potential of corporate action, companies need to have a good understanding of what overall political objectives specifically mean for their own areas of influence and contributions. CBD, as well as national programmes and strategies, for example “Enterprise

Biological Diversity 2020” in Germany, offer numerous approaches for actively incorporating businesses and sectors in their implementation, and to benefit from their innovation potential and power to get things done. All of the parties to the CBD should harness these possibilities, and also sustainably support the Global Partnership for Business and Biodiversity, whose establishment was agreed at the CBD-COP 10 in Japan in 2010.

Integrating biodiversity goals within sector policies

Mainstreaming at a policy-making level is an expression of the political will to preserve natural life support systems, and therefore also a catalyst for mainstreaming in business. Biodiversity policies should not be the sole responsibility of environmental ministries, but be promoted by governments as a whole. Whether and how biodiversity goals are to be achieved depends on legislation and incentives in many areas of policy-making outside of special environmental and nature conservation policies. The key areas are policies covering agriculture, energy and climate, waters, housing and transport, trade, and consumer protection, as well as public procurement and public land management. This is where the crucial ecological and economical agendas are set. The incorporation of biodiversity goals in these policy-making areas, as well as in pan-departmental and sectoral action, is fundamental for highlighting the relevance of biodiversity for business players, and firmly anchoring it in place on the operational side. This includes good co-operation between the ministries, joint administrative action, and integrated incentive approaches.

Demonstrate willingness to act and setting an example in key sectors

The biodiversity crisis in agriculture in particular, and the consequences of landscape impoverishment, cannot be compensated for by the efforts undertaken in other sectors. More than a third of the earth's surface is used for agricultural purposes, whilst around half of Germany's land area is used for agriculture. When it comes to the topic of biodiversity, seeing that the frontline sectors are willing to take action is particularly important for raising the awareness of the responsibility of sectors which stand in the second or third rows. Fundamental changes and ecologicalisation measures in conventional agriculture, and strengthening organic farming, have a high priority. This also involves developing a new culture of co-operation between agriculture and nature conservation, and establishing trust, to solve conflicts of interest between land use and nature conservation.

Implement and dynamically further develop nature conservation law – enable “temporary nature”

Ambitious and modern nature conservation legislation, which is further developed and successfully implemented, forms the political backbone to achieving the biodiversity goals. The challenges vary from country to country. In the case of the EU, a so-called fitness check of the EU nature conservation directives has again led to a more intense discussion on implementation deficits as well as practical application problems – particularly with respect to construction projects and approval processes. A “permanent conservationist” attitude in nature protection, focused on preserving the status quo, sometimes restricts voluntary commitments to biodiversity and effective nature conservation. This is because the, in some cases, very valuable “temporary nature” on land which may be destined to become building land again in future, is hindered by the statutory biotope protection, and particularly species protection, enshrined in EU and German law. Legally watertight solutions for “temporary nature” would increase the willingness to undertake voluntary commitments, e.g. on company premises, and other large plots of land, where habitats can only be actively created in the first place by corporate commitment and action.

Integrating the promotion of biodiversity in public sector procurement

With its procurement – in addition to the management opportunities of public land – the public sector has enormous leverage, and can use this to act as a role model. In this way it could honour products and services which are provided in a biodiversity-friendly way, or which are incorporated in the provision of public goods. Integrating biodiversity and ecosystem services in sustainable public sector procurement practices is an important step to move sustainable consumption out of its niche and into the mainstream. This would also highlight which goals are sought after by society as a whole. However, we also see that there are serious methodological challenges involved here to establish fair and transparent processes.

3 You can't manage what you can't measure: highlighting and honouring the value of natural life support systems

Getting across and strengthening biodiversity goals with the natural capital and ecosystem services approach

The concept of ecosystem services incorporates an anthropocentric perspective oriented to the wellbeing of people. There are many interactions between biological diversity and the capacity of nature to provide the ecosystem services so important for human life: preserving biodiversity does not mean the same thing as preserving useful ecosystem services; however, a high degree of biodiversity does also favour ecosystem services in many instances. The ecosystem service approach makes people appreciate the value of natural capital. This has also proven to be extremely illuminating for businesses in order to create awareness of their dependency on natural living conditions. We are therefore in favour of greater argumentation via the natural capital and ecosystem services approach, without in any way questioning the intrinsic value of nature itself.

Further promoting valuation at a macro-economic level

A successful instrument for valorisation was established many decades ago in Germany with the intervention regulation (impact mitigation regulation) pursuant to the Federal Nature Protection Act, with the aim of maintaining the effectiveness and proper functioning of ecosystems, and protecting characteristic landscapes. In other contexts, however, the interests in the conservation of nature and biodiversity often take a backseat in concrete evaluation and decision-making situations. Uncertain predictions about what will happen in future compete with concrete immediately-effective interests and clearly calculable costs – a classic sustainability problem. Long-term environmental and costs concerning society as a whole are inadequately incorporated in decision making. The international

and national TEEB studies, as well as initiatives such as the further development of the agreed methodology of the German Federal Environmental Agency for estimating environmental costs, pursue the objective of recognising the value of the numerous services provided by nature. The results provide information which is also important for industry, and should be developed further. Primarily, however, it is essential for the results to flow into the institutions, and become part of overall government policy making. We support the broad understanding of valuation within the framework of the TEEB approach, which is against “commoditisation”, and considering nature in pure monetary terms. Market mechanisms alone are inappropriate to assess the value of previously public goods.

Further promoting valuation at a business level

Analogous to the macro-economic assessment, approaches have to be further developed at the business level, to enable ecological values to be assessed more accurately. Sustainable companies are interested in a realistic estimate of societal costs. There are numerous methods for natural capital accounting, but many of them are still at a very early stage of development. Their practicability, benefits, financeability, and the broadness of their impact, still have to be proven. One major hurdle is the availability of data, particularly also with respect to primary data along the value chains, on which to base reliable assessments and the quantification of complex environmental effects. We welcome that industry has brought forward initiatives to test and further develop the approaches for natural capital accounting. These include collaborations such as the Natural Capital Coalition with its “Natural Capital Protocol” project; the elaboration of an ISO 14.008 “Monetary valuation of environmental impacts

from specific emissions and use of natural resources“; as well as the commitment of pioneering companies. It is important here to match the degree of detail required in each case with the specific effort involved, and to find a course which is efficient as well as targeted. The impact here has priority over detailed knowledge.

Speeding up mainstreaming within industry via stimulus from the financial sector

The financial sector could be a crucial catalyst for sustainable development. This applies to many of the business activities in which banks are involved – from asset management, to investment banking, from corporate and project financing, to private banking. Other crucial players in addition to the banks include insurance companies and re-insurers, fund managers, rating agencies, and export credit agencies. If the

financial sector considers the loss of biodiversity and other natural capital as a risk which has a negative impact on it, this will be reflected in capital costs, and the valuation of credit risks, and will therefore have a crucial impact on the business models, investment decisions and risk management of its clients. The sector is increasingly looking at the valuation of natural capital, particularly with respect to concrete parameters such as water and climate risks, air pollution, and land use, as well as the overexploitation of specific resources. The so-called Equator Principles on the preservation of environmental and social standards within the project financing segment, have been one of the approaches since 2003. We welcome that organisations such as the UNEP Finance Initiative, with projects such as its Natural Capital Declaration (NCD), are strengthening the awareness and methodological development in the financial sector. The sector should increase its awareness of its responsibility, and play a pioneering role.

4 Enhancing data availability and decision-making knowledge

Strengthening risk and impact research

Considerable gaps in knowledge and research, combined with conflicts of interests and goals, hinder societal consensus development, and the configuration of political frameworks for biodiversity. Biodiversity and ecosystem research is being strengthened for these reasons. A priority when investing in science and research should be given to risk and impact research, and the target-group-oriented publication of the results. Information on the conservation status of genetic diversity, species and ecosystems do not provide an adequate basis or motivation for many decision-making processes in order to become active according to the precautionary principle. It is much more important to demonstrate and improve the communication of how one is affected oneself by dependency on biodiversity and ecosystem services.

Enhancing data availability

Various database projects with long-term goals – such as the Global Biodiversity Information Facility GBIF or The Group on Earth Observations Biodiversity Observation Network GEO BON – are working to improve the collection of data and access to this data. However, an important source of data here has barely been harnessed to date: every year, companies, or the experts working on their behalf, collect millions of datasets on biodiversity as part of authorisation procedures. Companies and scientific organisations should work together to identify ways of making this information accessible and usable. A few sectors have undertaken pioneering work here well worth emulating, e.g. the biodiversity database initiated by the Pit & Quarry Industry Association in Baden-Württemberg (Industrieverband Steine und Erden Baden-Württemberg ISTE), which assesses and documents the development of biological diversity in extraction sites, and which is to be further developed at a German-wide level in future.

Improve the transfer of research – edit the knowledge for decision makers

To increase the social relevance of the research, it is necessary to have better interfaces for the target-group-oriented transparent editing of the scientific findings on biodiversity to support more informed decision making at a political level and within industry. Scientific reports must be written so that people take notice of them in the first place. Politicians and also industry are responsible for evaluating the consequences, and therefore depend on scientific knowledge to place landmark decisions on a firm footing.

An important milestone here is the establishment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in 2013, as an international, intergovernmental institution for knowledge generation, the execution of assessments, political assistance and the build-up of capacities. Processes of this kind must be permanently equipped with adequate resources, which also cover the expenditure involved in the target-group-oriented distribution and communication of the findings. In the next step, it is important to elaborate specific options for action for business management which maintain and/or promote biodiversity, and make this available to the players. Ideally, this would take place with the involvement of all participants.

5 Strengthening biodiversity as a topic of comprehensive sustainable development

Facing up to challenging discussions on prosperity and lifestyles

Companies work within an overall societal environment whose ethical, cultural and economic preferences have a crucial impact on market and competitive conditions. In order to maintain their market strength and competitiveness, innovative, sustainable products and services, and business models need social acceptance, and the willingness of consumers to pay an adequate price. When one looks at the major transformative challenges such as climate change and the biodiversity crisis, as well as their fundamental causes, it becomes clear: innovative environmental-technology strategies cannot be adequate on their own to tackle the causes; this can only be achieved by interaction with the innovation strength of society. This requires a number of interlocking change processes, and the courage to also discuss uncomfortable questions, such as the use of resources. A critical debate on consumption and lifestyles is an overall responsibility for all societal players.

Using the opportunities of the 2030 Agenda for Sustainable Development

Biodiversity is not a pure ecological issue; it also has immense social and economic dimensions. Distributive justice, a fair burden sharing, and development opportunities are vital issues, if not the key topic in international climate and biodiversity negotiations. The Nagoya Protocol is therefore an important achievement within CBD. The UN 2030 Agenda for Sustainable Development adopted in 2015 not only contains “Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”. More importantly, it also highlights the significance of intact ecosystems in the context of numerous of its goals, for instance “Goal 12: Ensure sustainable consumption and production patterns.” The 2030 Agenda for Sustainable Development opens up a major opportunity of communicating biodiversity even more intensely within the fundamental context of sustainable development and international responsibility, and therefore also of reaching economic players better than has been possible so far. The achievability of the biodiversity targets will crucially depend on how strongly the UN mechanism takes effect, and helps achieve political integration.

