

econsense

Forum for Sustainable Development
of German Business

Biodiversity and Ecosystem Services



Responsibility and Sustainable Growth

econsense Discussion Paper

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Biodiversity and Ecosystem Services – Responsibility and Sustainable Growth

The maintenance of biological diversity is one of big sustainability challenges of the 21st century. Biodiversity includes the diversity of species, genetic diversity within the species and the diversity of ecosystems and their functions on earth. The aim of the 1992 Convention on Biological Diversity negotiated within the United Nations is to protect biodiversity. The Convention formulates three equally important goals:

- **To maintain biological diversity,**
- **to ensure that the use of its components is sustainable and**
- **to distribute the benefits of using genetic resources fairly and equitably.**

Biodiversity is affected by different factors, of which the following are considered to be the most important:

- **Loss and degradation of habitats (through direct intervention in nature and the landscape),**
- **climate change,**
- **environmental pollution as well as emissions and immissions (e.g. nutrient overload) and**
- **spreading of alien species.**

However, functioning ecosystems provide many basic services which also form the basis of all economic activity. These include:

- **Supply services**
Food, water, wood, fibres and genetic resources
- **Regulatory services**
Regulation of climate, floods, disease, water quality and waste disposal
- **Cultural services**
Recreational, aesthetic enjoyment and spiritual fulfilment
- **Supportive services**
Soil formation, nutrient cycling

The conservation and sustainable use of biodiversity, however, are far from being only an environmental issue. They are essential for industrial production processes and services as well as the human living environment. The conservation of biodiversity is therefore also essential for business.

Today, it is generally accepted that decreased biodiversity also leads to a decrease in the quality of goods and services available to ecosystems. And since all companies and industries depend on these ecosystem services in many different ways, they are also affected.

The availability of intact ecosystems and their services is therefore in the best interest of society, politics, science and business. Because biodiversity is the undisputed basis of global life and business, it cannot be reduced to the protection of just a few symbolic species in political and social communi-

Development of ecosystem services at a glance

	Worsened	Mixed	Improved
Supply	<ul style="list-style-type: none"> • Fish stocks (wild caught) • Fresh water • Genetic resources • Natural remedies / medicine 	<ul style="list-style-type: none"> • Timber • Other natural materials (cotton, hemp and silk) 	<ul style="list-style-type: none"> • Grain • Livestock • Fishing from aquaculture
Control and protection	<ul style="list-style-type: none"> • Control of air quality • Local climate control • Erosion control • Waste decomposition • Pollination • Protection against natural disasters 	<ul style="list-style-type: none"> • Water regulation • Prevention of epidemics and pest infestations 	
Culture and recreation	<ul style="list-style-type: none"> • Ethical values • Aesthetic values 	<ul style="list-style-type: none"> • Recreation and ecotourism 	

Source: PricewaterhouseCoopers AG auditors, presentation 2011 – based on Millennium Ecosystem Assessment. 2005 Ecosystems and Human Well-being: Synthesis. Washington, DC: Island Press.

cation. It is therefore worth providing a comprehensive picture of what is meant by biodiversity and the functions of intact ecosystems, and how people and businesses can use them in their “spheres of influence” in a sustainable way.

Sustainable use and conservation of biodiversity requires the cooperative participation of all stakeholder groups

Thus, it is even more important for society, science, politics and the private sector to jointly adopt biodiversity conservation and to face the challenge together. Various models of cooperation are already being tested. Partnerships between companies and non-governmental organisations dedicated to the conservation of biological diversity are promoting the stakeholders’ understanding of each other’s objectives. The remarkable thing about this is that these partnerships are voluntary and supported by common and complementary interests. This type of cooperative participation has the potential to create very effective contributions to the conservation of biodiversity.

Research collaborations between industry and academia are also making significant contributions to the analysis of the fundamentals of the sustainable use of biodiversity and to the improvement of the credibility of specific solutions. Members of econsense – Forum for Sustainable Development of German Business have been working together with academic institutions to design their own projects for the protection of biodiversity more effectively and focused and to promote the knowledge and results gained from these projects to the experts and the general public.

The companies of econsense welcome the partnerships with business initiated by politics. However, a broad approach should always be chosen and all interested companies should be invited to the dialogue on an equal footing. The

target group should include all companies which focus their business on the guidelines of sustainability. In this sense, econsense, as the central platform for sustainable business, will be available to politics and non-governmental organisations as a partner for dialogue.

The “business case” for biodiversity

The importance of biodiversity for business is huge, both as a material resource for industrial processes and products, as a blueprint for technological innovation, or as the added value for tourism services. The use of ecosystems and access to genetic resources therefore has a direct impact on the economic success of many products, processes and services. This applies equally to industries which extract or process resources from the ecosystems and to those where the products and services are based on an intact biological diversity, including all the companies which affect the local biodiversity at their sites and locations.

The fact that biodiversity is a “business case” has been made clear by the global TEEB study (The Economics of Ecosystems and Biodiversity). This study was initiated by the G8 countries and five major emerging economies. It deals with the global economic benefit and value of biological diversity – the cost of losing biodiversity and neglecting to implement protective measures versus the cost of effective conservation.

TEEB provides convincing arguments to take the economics of biodiversity and ecosystem services into consideration during decision-making processes. The TEEB report for business identified seven priorities for companies to take concrete action¹:

¹ www.teebweb.org/Portals/25/TEEB%20Synthesis/TEEB_Synthesis_german_web%5B1%5D.pdf (11th January 2012).

Ecosystem services and the cost of their conservation

<ul style="list-style-type: none"> Pollination Proportion of crops pollinated by bees 70% Annual losses to producers in the USA due to the collapse of bee colonies 15 Billion US \$ 	www.fao.org/DOCREP/005/Y4586E/y4586e11.htm (15th January 2012) United States Department of Agriculture (2007)
<ul style="list-style-type: none"> Water storage and flood protection Cost of flooding in 1998 caused by deforestation in Bangladesh, China, India and Vietnam 23 Billion US \$ 	United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
<ul style="list-style-type: none"> Pest Control Annual losses due to mismanagement or accidental introduction of pests into the U.S., UK, Australia, South Africa, India and Brazil 100 Billion US \$ 	Convention on Biological Diversity, "business.2010", magazine on business & biodiversity, June 2009, Volume 4 - Issue 1, www.pwc.com/gx/en/research-publications/exploring-emerging-risks.jhtml
<ul style="list-style-type: none"> Soil condition Area of arable land abandoned due to erosion in the last 40 years 15 Billion hectares Annual costs of soil erosion in Europe 53 € per hectare 	www.grida.no/news/press/2185.aspx García-Torres, L. et al., (2001), Conservation agriculture in Europe: Current status and perspectives

Source: PricewaterhouseCoopers AG auditors, presentation 2011.

1. Identify the impacts and dependencies of your business on biodiversity and ecosystem services (BES)
2. Assess the business risks and opportunities associated with these impacts and dependencies
3. Develop BES information systems, set SMART targets, measure and value performance, and report your results
4. Take action to avoid, minimize and mitigate BES risks, including in-kind compensation ('offsets') where appropriate
5. Grasp emerging BES business opportunities, such as cost-efficiencies, new products and new markets
6. Integrate business strategy and actions on BES with wider corporate social responsibility initiatives
7. Engage with business peers and stakeholders in government, NGOs and civil society to improve BES guidance and policy

Companies gain strategic competitive advantages when they use resources efficiently and therefore reduce negative effects on biodiversity. More efficient processes, reduced use of resources and technological innovations within the company means reduced raw material costs, higher quality products and services and an innovative edge over competitors. That leads to the necessary "license to operate" for companies.

The protection of biodiversity requires global conditions

As with climate change, the contribution of Germany or Europe to the protection of biological diversity also appears to be only a small component of what must primarily be considered a global task, since it is undisputed that the greatest diversity of ecosystems, the greatest diversity of species and the greatest genetic diversity are in the developing and newly industrialised countries.

The Convention on Biological Diversity (CBD) was created and adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. The Convention on Biological Diversity has now been joined by 193 States and the European Community. The Convention was ratified by Germany in 1993.

Germany held the presidency of the Convention on Biological Diversity from 2008 to 2010 and the chairmanship was handed over to Japan at the 10th Conference of Parties (COP10) for the Convention on Biological Diversity in Nagoya, Japan. The resolutions agreed at the conference and the adoption of the so-called ABS protocol in particular must be regarded as positive. Binding international rules on access to genetic resources and related equitable sharing of benefits are an essential component for the robust protection of biodiversity and ecosystem services. The members of ecosystem support the goal adopted in Nagoya to stop the worldwide loss of biodiversity by 2020.

The communication “Life Insurance and Natural Capital – a biodiversity strategy for the EU for 2020” (COM [2011] 244), published by the EU Commission in May 2011, is partly based on the resolutions of COP10 and is integrated into the broad EU strategy “Europe 2020”. The members of econsense regard the associated status and generally increased awareness of the biodiversity issue as very important and necessary. Sustainable protection of biodiversity and ecosystem services will only be possible with the involvement of the various stakeholders.

The competition conditions must be harmonised at a global level and appropriate mechanisms developed which help to finance the implementation of the Convention on Biological Diversity and to facilitate the use of efficient and sustainable technologies and products (similar to the Kyoto Protocol), particularly where the contribution to a sustainable development is greatest. What is required is a sustainable framework to create a fair balance between social needs, environmental requirements and economic competitiveness.

National Strategy for Biodiversity

Germany has fulfilled Article 6 of the Convention on Biological Diversity in 2007 with the “National Strategy on Biological Diversity”. This article stipulates that “each Contracting Party shall [...] develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes”.

The national strategy aims to implement the convention at the national level. The strategy also aims to mobilise all the social forces and pool them in order to significantly reduce the threat to biological diversity in Germany, so that biological diversity, including any regional characteristics, increases again.

The strategy contains a concrete vision for the future up to 2050. The strategy as a whole takes into consideration environmental, economic and social aspects in terms of the guiding principle of sustainability.

Crucial to the success of the “National Strategy on Biological Diversity” is its integration internationally so as to (1) improve its effectiveness and (2) to avoid competitive disadvantages for companies in Germany.

The importance of biodiversity is highlighted in the Progress Report 2012 of the German Government on the National Strategy for Sustainable Development. econsense welcomes the positive response to this topic.

The protection of biodiversity requires integrative approaches in politics and business

Topics on a sustainability agenda which directly relate to the protection of biological diversity include climate change, the use of renewable resources (both in terms of energy and materials), the efficient use of resources, deforestation and water shortages. From this, there are many design levers which can help directly or indirectly both to preserve biodiversity and to promote sustainable use. It is therefore more important for politics to link and coordinate existing discussions and activities. In addition to direct measures for the conservation of biological diversity (e.g. the subordination of areas under protection), policies which are effectively integrated in environmental and climate policy regulations at the national, European and international level are particularly important for the promotion of biodiversity.

Business also relies on integrative approaches to the conservation of biological diversity. Thus, a significant contribution to the protection and sustainable use of biodiversity is already being made with the current activities in soil, air and water protection along with avoiding greenhouse gas emissions to combat climate change and using energy and raw materials carefully and efficiently. The businesses which are networked in econsense have therefore formulated this as part of their environmental management objectives and have established best practices covering different geographies. Bearing in mind that the protection of biological diversity requires integrative approaches and also crucially depends on successes in these areas of environmental protection, companies are systematically contributing to the sustainable use of biological diversity and supplementing this by direct programmes and projects to protect biodiversity. Many econsense members are already actively involved in initiatives in this topic. One example worth mentioning is the Biodiversity in Good Company Initiative.

econsense as cross-sector dialogue platform

As globally active companies, the members of econsense are committed to sustainable development and corporate responsibility. This includes the protection of biodiversity. It is essential for the conservation of biodiversity and ecosystem services in particular to use natural resources sustainably; entrepreneurial environment protection and resource efficiency measures contribute directly to this. econsense members consider it important to transparently assess the impact of their activities on the biodiversity. The primary reason for this is to be able to integrate the protection of biodiversity into the operational management systems as a strategic component. econsense members are already contributing directly to the sustainable management of the functions of ecosystems and species via the existing environmental management systems in air, water and soil.

econsense companies are also actively involved in a variety of partnerships which invest in the research and development of more efficient products and processes and are already providing support for the sustainable use of biodiversity, particularly through training for environmental protection. econsense brings together companies from a variety of industries and therefore provides a broad perspective on the sustainable use of natural resources. econsense integrates the activities and involvement of companies for the benefit of biodiversity and functions as think-tank and platform for open dialogue for exchanges between politics, science and society in order to find the best ways to achieve the goals agreed in the Convention on Biological Diversity.

Further links

- Current information on biodiversity and ecosystem services at econsense (with practical examples):
<http://econsense.de/en/topics/biodiversity-and-ecosystem-services>
- National Strategy for Biodiversity:
http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_biolog_vielfalt_strategie_bf.pdf
- TEEB report for trade and industry – brief overview:
<http://www.teebweb.org/Portals/25/Documents/TEEB%20for%20Business/TEEB%20for%20Bus%20Exec%20English.pdf>
- TEEB website:
<http://www.teebweb.org/>
- Website for the 10th Conference of Parties (COP10) for the Convention on Biological Diversity in Nagoya, Japan (Oct. 2010):
<http://www.cbd.int/cop10/>
- Website for the Business and Biodiversity Initiative:
<http://www.business-and-biodiversity.de>