PRUDENCE, JUSTICE and the GOOD LIFE

A typology of ethical reasoning in selected European national biodiversity strategies

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Uta Eser Ann-Kathrin Neureuther Hannah Seyfang Albrecht Müller

Study on behalf of the German Federal Agency (BfN)

With contributions by
Marcus Düwell and
Bernd Hansjürgens

FOREWORD

Dear Readers,

The German Federal Agency for Nature Conservation is aware of the importance of ethics in biodiversity conservation, and fosters an ongoing dialogue concerning this topic.

At the moment, the German National Biodiversity Strategy (GNBS) is the most important strategic document for biodiversity conservation in Germany. Ethical arguments are mentioned here explicitly, although in a short and condensed form. This is due to the fact that the process of policy formation is a long and challenging one, with a lot of discussion and a lot of topics to be included. However, in an implicit way current as well as traditional arguments for nature conservation are contained in the entire GNBS. We deemed it appropriate to take a closer look at these arguments. Therefore the German Federal Agency for Nature Conservation funded an expert report in 2009 on the ethical foundations of the GNBS: Dr. Uta Eser and her working group from the University Nürtingen-Geislingen presented an in-depth analysis and transparent restructuring of the ethical arguments included. The report has been published in German under the title "Klugheit, Glück, Gerechtigkeit – Ethische Argumentationslinien in der Nationalen Strategie zur biologischen Vielfalt", in the publication series of the Federal Agency in 2011. I want to highlight the relevance of this restructuring of arguments and of a broad and solid ethical foundation for nature conservation and its communication. We have to leave old-fashioned discussions like 'ecological vs. economic arguments' that proved rather contra-productive behind. The above mentioned expert report represents a first step into this direction. It was the basis for the document at hand. The study suggests three types of ethical arguments with importance for nature conservation: Prudence, Justice and Good Life.

Arguments of the Prudence-type focus on the fact that we should safe biodiversity because it is in our own best interest. Not to do so wouldn´t be very clever and would endanger our survival on this planet. Economic as well as ecological arguments both belong to this category. In present debates concerning nature conservation these arguments prevail. However, they are not enough; their prevalence actually disguises conflicts concerning other topics. Arguments of Justice refer to our obligation to save biodiversity and use it in a sustainable way. Beyond dispute are arguments concerning our obligation towards humans living today. Hardly disputable are obligations towards future generations. Arguments of justice are strong arguments because of their binding character. And last but not least arguments for a Good Life deal with the fact that we safe our nature because we love and value it: biodiversity and nature are part of a satisfying human life. Arguments of this type are often well-understood by many people because of their emotional character.

As a second step in our ethical undertaking the German Federal Agency for Nature Conservation decided to expand the analysis to ethical arguments underlying other biodiversity conservation strategies: A focus was put on our neighbouring countries Austria and Switzerland and the strategy of the European Union. We did this in order to release a pulse on ethical awareness in nature conservation and foster a Europe-wide dialogue. Hence a second expert report was funded, conducted again by Dr. Uta Eser and her working group. Dr. Uta Eser and her colleagues present a detailed introduction to arguments of Prudence, Justice and the Good Life and the application of this argumentative grid for analysis and comparison of the national biodiversity strategies of Austria, Switzerland, Germany and the European biodiversity strategy.

Other European national biodiversity strategies were analyzed synoptically. Moreover, results of a conference concerning this topic are part of this publication, too. The conference was organized by the Federal Agency in cooperation with the Environment Agency Austria and the Federal Office for the Environment Switzerland, held March 2011 in Stuttgart: Scientists, philosophers and representatives of administrations and NGOs discussed the ethical foundations of the mentioned strategies and how communication for biodiversity conversation could be improved. In addition, the trend for economic arguments in nature conservation was up for debate, and the role of ethics in politics was reflected on.

I hope that all readers find lots of inspiration for their work and a common approach to nature conservation.

Prof. Dr. Beate Jessel
President of the Federal Agency
for Nature Conservation

ABSTRACT

Communication, participation and education (CEPA) are considered key to the implementation of the UN Convention on Biological Diversity (CBD). To improve biodiversity communication, the German Federal Agency for Nature Conservation commissioned an ethical expertise on good arguments in favour of biodiversity in 2011. This final report presents findings from an analysis of the German, Austrian, Swiss and EU biodiversity strategies with regard to their concepts of communication and ethics. The triad "Prudence, Justice and the Good Life" serves as an analytical tool to group and evaluate the arguments to be found in the strategies analysed.

The report is divided into two parts, which can be read independently. Part one sets out the domain: Conceptual clarifications prepare the ground for the analysis in part two. The authors explain the meanings of the terms ethics, biodiversity and communication. Two external contributors provide in-depth examination of the fields of politics and economic evaluation and their particular relation to ethics and morality. The categories Prudence, Justice and the Good Life are introduced and explained.

Part two illuminates those categories by applying them to the four strategies under scrutiny. Readers who are more interested in practical recommendations than in theoretical foundations can skip the first part and start with part two. They'll find numerous cross-references to part one, in case they wish to find the theoretical background for a particular concept.

Introductorily, the second part provides information about and a comparison between the four strategies studied. In the following, one example for each category is presented and critically discussed in one chapter. Linking biodiversity to ecosystem services is presented and debated as an example of Prudence. "We are all in this together", a phrase from the EU strategy, is used to demonstrate how collective rhetoric can conceal issues of global and social justice. The Aichi slogan "Living in harmony with nature" illustrates the meaning and importance of arguments of the Good Life. The concluding chapter summarises the findings and draws conclusions for communication. An additional chapter presents a synopsis of all available European national biodiversity strategies with special regard to communication and ethics.

This study is addressed to people working in the field of biodiversity communication and education who are interested in ethical aspects of biodiversity politics. It provides an insight into the field of environmental ethics for non-philosophers and is meant to promote and enhance ethical debate in biodiversity communication.

CONTENTS I

CONTENTS II

The objectives of this Convention […] are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources […].

CBD, Article 1

CONTENTS II

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

Aichi Targets, Target 1

CONTENTS II

"Biological diversity" means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

CBD, Article 2, Use of terms

LISTS OF FIGURES, TABLES AND BOXES

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ABBREVIATIONS

ABS	Access and Benefit Sharing
ANBS	Austrian National Biodiversity Strategy
BAP	Biodiversity Action Plan (European Union)
BfN	Federal Agency for Nature Conservation (Germany)
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, (Germany)
CAP	Common Agricultural Policies (European Union)
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CFP	Common Fisheries Policies (European Union)
COM(…)	Communication from the European Commission
COP 2010	10th conference of the Parties to the Convention on Biological Diversity
DETEC	Federal Department of the Environment, Transport, Energy and Communications (Switzerland)
EEA	European Economic Area
ENBS	European National Biodiversity Strategy
EPA	United States Environmental Protection Agency
EU	European Union
FOEN	Federal Office for the Environment (Switzerland)
GMO	Genetically modified organism
IUCN	International Union for Conservation of Nature
MA	Millennium Ecosystem Assessment
NBC	National Biodiversity Commission (Austria)
GNBS	German National Biodiversity Strategy
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-Governmental Organisation
SEC(…)	Accompanying document to a Communication from the European Commission
SNBS	Swiss National Biodiversity Strategy
TEEB	The Economics of Ecosystems and Biodiversity
UNCED	United Conference on Environment and Development (Rio de Janeiro, Brazil, 1992)
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WBGU	German Advisory Council on Global Change (Wissenschaftlicher Beirat für Globale Umweltfragen)

INTRODUCTION

INTRODUCTION

There are some who disparage ethics and values, urging identification with nature instead; once we become identified with the natural environment, they say, the necessary action will become obvious, if not instinctual. But such attempts to merge tl individual with nature forget that it is largely as individuals with distinct identities, or as groups of such individuals, that we think and act, and that we need to respect as other than ourselves the people and creatures around us and the rest of the natural world, as we interact with them.
Robin Attfield 1999

Why a study on ethical reasoning?

In 1992, the United Nations Conference on Environment and Development set the political agenda for the 21st century: The idea of sustainable development was promoted as the magic formula for solving the long lasting conflict between human well-being and the thriving of nature on a global scale.
The Rio Declaration on Environment and Development, the Agenda 21, the UN Framework Convention on Climate Change (UNFCCC), and the UN Convention on Biological Diversity (CBD) are globally important outcomes of this conference. The latter addresses the ongoing loss of species, habitats, landscapes and genetic diversity and its impact on human well-being.

Communication on biodiversity must acknowledge a multiplicity of values and belief systems. Apart from providing information about facts, it has to encourage and enable debate about competing ethical norms and values.

Critically assessing the past twenty years, it has to be admitted that not much has been achieved – neither for the environment nor for development. The Millennium development goals are as far from being reached as are the targets of the Convention on Climate Change and the Convention on Biological Diversity. The ambitious 2010-target, to substantially reduce the loss of biodiversity, was missed. The same is obviously true for the European 2010-target of halting the loss of biodiversity.

Moving beyond 2010, the international communty developed a strategic plan for biodiversity at the 10th Conference of the Parties in Nagoya (COP 2010). This strategic plan shall ensure that the CBD goals are met within the next decade (2011-2020).

To date, the European commission as well as most European countries have provided or are working on national biodiversity strategies and action plans.

Communication, participation and education are generally considered to be important prerequisites for a successful implementation of the CBD (CBD 1992). To reach the goals of the CBD, broad cooperation among all relevant societal groups is needed. National, regional and local governments, land users, consumers, and managers – they all have to be convinced that it is right and worthwhile to change their daily practices in favour of biological diversity. And an important means by which people can be convinced is communication.

While the bulk of the literature on biodiversity communication concentrates either on the question **what** to communicate or **how** to communicate, one particular aspect of biodiversity communication has received too little attention to date: In a pluralist society we cannot rely on a commonly accepted value system as a foundation of biodiversity strategies. Rather, communication on biodiversity must acknowledge a multiplicity of values and belief systems. Apart from providing information about facts, it therefore has to encourage and enable reflection on and debate about competing ethical norms and values. This report is a contribution to the latter aspect: **What** do we need to communicate about in order to promote biodiversity politics?

Bearing the ethical dimension of biodiversity politics in mind, Germany's Federal Agency for Nature Conservation (BfN), commissioned an expertise on the ethical foundations of arguments used within the German strategy (in the following GNBS) in 2009. The agency meant to advance communication on biodiversity by addressing ethical issues. The final

report was published in 2011 (Eser et al. 2011). It differentiated three kinds of arguments that can be used in favour of a biodiversity strategy: Prudence, Justice and the Good Life. The report highlighted the strengths of the different kinds of arguments and cautioned about their shortcomings. It favoured an inclusive and pluralist approach to ethical reasoning. With regard to the current dominance of prudential arguments in the biodiversity discourse, it suggested broadening the spectrum of arguments used in communication on biodiversity and encouraged the use of explicitly moral and ethical reasoning.

The distinction between prudential, moral and ethical arguments – well-established in philosophy but not among environmentalists – turned out to be quite instructive for people engaged in biodiversity communication. The expertise seemed to have met the demands of practitioners as well as concerned citizens. Therefore, the Federal Agency of Nature Conservation suggested expanding the scope of analysis to other European strategies in order to stimulate the debate on ethical issues in Europe.

As a beginning one decided to compare the national biodiversity strategies of the three German-speaking countries, Germany, Austria and Switzerland, which already maintain close cooperation with regard to nature conservation. The emerging European biodiversity strategy was included, too, in order to address a broader European audience.

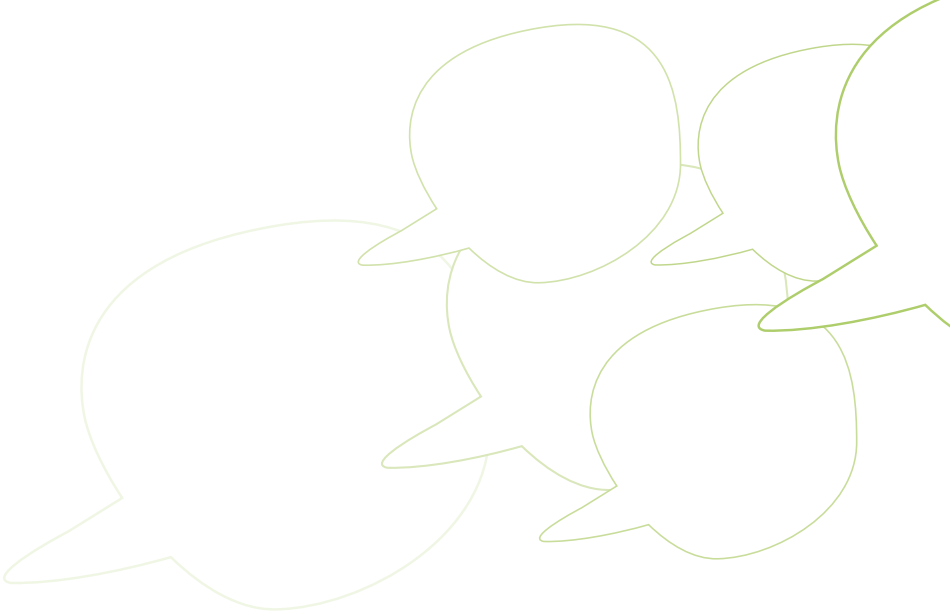
The dialogue forum on ethics

To survey the current state of biodiversity politics in Germany, Austria, Switzerland and the European Union, a conference was organised in Stuttgart-Hohenheim in March 2011: The meeting was embedded in the German implementation process of the German National Biodiversity Strategy (in the following cited as GNBS) as a so-called dialogue forum. Its title was "Dialogue forum ethics: How to justify and communicate European biodiversity strategies". The first session was devoted to "Communicating national biodiversity strategies: achievements and challenges". Representatives of the three national strategies were invited to present their countries' strategy especially with regard to communication and ethics: Jonna Küchler-Krischun for Germany, Gabriele Obermayer for Austria, Andreas Bachmann and Michael Herrmann for Switzerland. We invited Hans Friederich, regional director Europe at the International Union for Conservation of Nature (IUCN) to give an explanation of the European situation.Additionally, we provided input on two topics of special relevance: With regard to the increasing use of economic arguments, we asked a representative of the TEEB study, Bernd Hansjürgens, to inform us about the approach of TEEB and its impact on politics. To guard against too high expectations concerning the influence of ethics on politics, we asked Marcus Düwell for a statement on the relation between ethics and politics (→ figure 0.1).

The representatives of the national strategies were asked to present the strategy of their country according to two complexes of questions:

- Structures and protagonist: How is your country's biodiversity strategy structured? Who initiated it? Who was in charge of the development process? Which departments were involved in the process? Which role did communication and participation play in the process?

- Obstacles to implementation: What kind of impediments hindered the implementation (or adoption) of a national strategy? Did diverging ethical views pose an obstacle to cooperation? Which other reasons impeded communication and/or cooperation?



With regard to the TEEB study we have asked for the following information:

- Explanation of the methods: How can values of biodiversity and ecosystem services be economically quantified?

- Assessment of impact: Do economic arguments have a higher impact on the political level than other arguments?

As regards the relation of ethics and politics, we were interested in the following aspects:

- Role of ethics: What can ethical reflection contribute to politics?

- Role of politics: Can or should politics become more moral?

The contributions to the dialogue forum are integrated into this publication. The papers by Marcus Düwell and Bernd Hansjürgens are incorporated as chapters two and three. Information provided by the national representatives was edited and is presented in chapter five.

Outline

This volume is divided into two major parts.

Part one is setting out the domain: Conceptual clarifications shall prepare the ground for the analysis in the second part. Those clarifications are necessary because central terms we use in our analysis have a more specific meaning here than they have in the general public discourse. However, readers can also start with the second part and consult part one only if theoretical clarification is needed.

To get the three key concepts straight, the first chapter clarifies our understanding of 'ethics' (→ section 1.1), 'biodiversity' (→ section 1.2) and 'communication' (→ section 1.3). These conceptual clarifications are supplemented by two relational clarifications in the following two chapters which explore the interaction between ethics and two other key areas, namely politics and economics.

Sometimes the influence of ethics on politics tends to be overestimated. "If only we find the best argument", some people hope, "we can redirect politics towards a more sustainable development."
With regard to such high expectations concerning the political impact of ethics, Marcus Düwell argues in chapter 2 that ethics and politics need to be understood as distinct practices. To be potentially convincing, strategies on biodiversity can benefit from ethical reflection. This quest for good arguments is a matter of veracity as well as of credibility. Nevertheless it has to be kept in mind that politics in general is guided by the quest for a balancing of interests rather than by ethical considerations. The practical outcome of this balance depends on the power of interest groups rather than on the power of arguments.

The recent trend towards relying on economic arguments reflects the intention to avoid moral language and pointing fingers. However, it should not be overlooked that economic arguments also involve ethical assumptions and that not all values can be convincingly captured within the economic framework. Bernd Hansjürgens explains in chapter 3 how the TEEB study addressed these problems.

Chapter 4 presents the analytical tool that we have used for the study of the German strategy (Eser et al 2011). We will apply this tool in comparing the German, Austrian, Swiss, and European strategies in part 2. The three categories Prudence, Justice and Good Life are no clear cut distinctions, but conceptual

Dialogue forum on ethics

Conference programme on 3rd March 2011

13.00 Opening session
Prof. Dr. Albrecht Müller, Nürtingen-Geislingen University

13.10 Introduction: Significance and necessity of ethical reasoning in the field of nature conservation.
Prof. Dr. Beate Jessel, President of Germany's Federal Agency for Nature Conservation (BfN)

13.30 Prudence, Justice and the good Life: ethical argumentation in the German National Biodiversity Strategy.
Dr. Uta Eser, Nürtingen-Geislingen University

15.00 How to communicate NBSAPs: Achievements and challenges
Dr. Jonna Küchler-Krischun, Federal Ministry fort he Environment, Nature Conservation and Nuclear safety (Germany)
DI Gabriele Obermayr, Federal Ministry of Life (Austria)
Andreas Bachmann, Federal Office for the Environment (Switzerland)

16.30 Communicative circuit: Possibility of discussions in small groups during an excursion to the botanical garden of Hohenheim University.
Prof. Dr. Reinhard Böcker, Hohenheim University
Dr. Markus Röhl, Nürtingen-Geislingen University

17.30 The European Biodiversity Strategy
Dr. Hans Friederich, IUCN

19.30 Comparison of Reasoning within NBSAPs
Ann-Kathrin Neureuther, Nürtingen-Geislingen University

20.00 Prudence, Justice and the Good Life – how we can, want, and ought to communicate about biodiversity (Discussion)

Conference programme on March 4th 2011

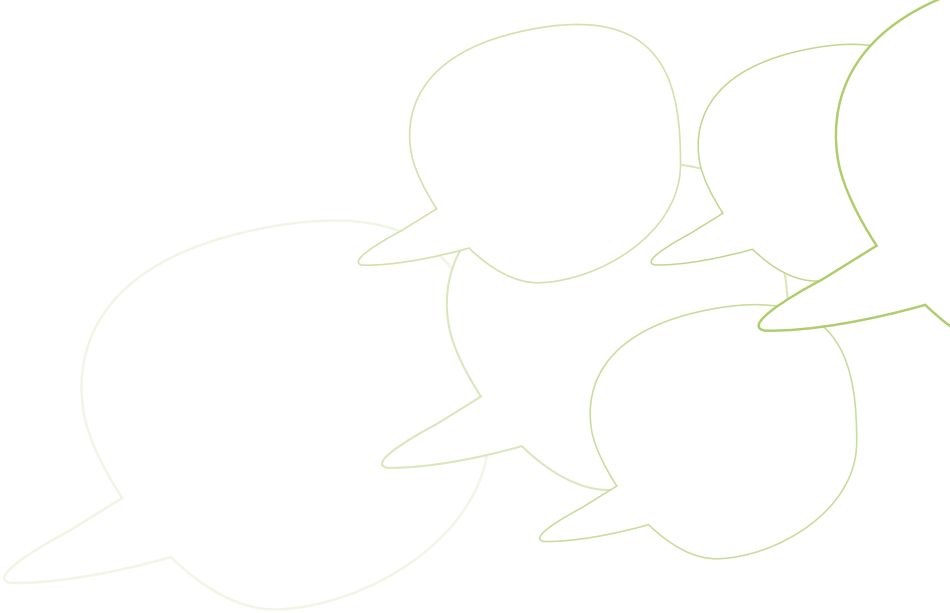
8.30 Successfully communicating nature's value: The „TEEB-study" and policy makers' response to it
Prof. Dr. Bernd Hansjürgens, Helmholtz Zentrum für Umweltforschung, UFZ, Leipzig, Germany

9.00 Money makes the world go round? – About the trend to assess economic values in discussions about nature conservation (World-Café)

11.00 Moralised Politics - Politicised Morality: On the Role of Ethics in Political Debates on Sustainability and Climate Change
Prof. Dr. Marcus Düwell, Utrecht University

12.00 Conclusion

Figure 0.1 Programme of the conference "Dialogue forum on ethics"



representations of different kinds of argumentation which in reality often merge. Prudential arguments (→ section 4.2.) represent the conservation of biodiversity as a matter of human self-interest. Arguments of Justice (→ section 4.3) consider the conservation of biological diversity as moral obligation. This category is characterised by the binding character of its claims – it leaves open the highly contested question to whom these obligations are addressed. The Good Life (→ section 4.4), finally, comprises all arguments that value biological diversity beyond its instrumental value for human purposes. This category is characterised by recommendations of certain attitudes rather than prescriptions of dos and don'ts.

Part two illuminates these categories by applying them to the strategies under scrutiny. Those readers who are more interested in practical recommendations than in theoretical foundations can skip the first part and start with part two. They'll find numerous cross-references to part one in case they wish to find the theoretical background for a particular concept.

Part 1 of this study sets out the domain with regard to conceptual clarifications and the Good Life in reference to the four strategies compared and highlights arguments which have specific relevance for the discourse. Readers can also start with the second part and return to Part 1 if theoretical clarification is needed.

As a general background, we provide information about the different strategies analysed in **chapter 5**. For each strategy analysed, one section displays formal, institutional and structural aspects as presented by the selected representatives. The chapter is summarised by a comparison that highlights commonalities and differences between the strategies. In principle, all strategies involve all kinds of reasoning (Prudence, Justice and the Good Life). However, some arguments have specific relevance for the discourse. These are analysed in more detail in the following chapters.

Chapter 6 highlights a recent version of prudential argumentation: biodiversity is increasingly being linked to ecosystem services. Using the title of the recent EU strategy as a headline, this chapter focuses on ecosystem services as a kind of prudential argumentation that is currently of major discursive importance.

Under the headline "We are all in this together", **chapter 7** takes on another formulation of the EU-strategy and contrasts it with the aim of a fair and equitable sharing of benefits. By questioning who exactly is meant by "we" in the quoted slogan, it distinguises negative impacts of biodiversity loss on our own well-being from those on the well-being of others – either in space or in time. It demonstrates that the loss of biodiversity does not concern everybody in equal measure and argues that discriminating between costs and benefits involved as well as naming the ones who benefit and the ones who bear the costs is crucial for appropriately addressing issues of environmental justice.

Using the slogan of the Aichi targets, "Living in harmony with nature", **chapter 8** deals with those aspects of biodiversity that are not linked to direct use options. It explains that a broad concept of human well-being entails more than just physical well-being and favours the idea of a Good Life as an important framework for debates about the meaning and relevance of biodiversity. Against the observed propensity to use (supposedly) "objective" reasons rather than merely subjective ones, the chapter encourages public debate about what it means to lead a Good Life and what its necessary constituents are. We

argue that the very capability of humans to refrain from selfish action for the benefit of other (human and non-human beings) is neglected in a prudential argumentation focused on self-interest only.

Chapter 9 summarises the findings and gives recommendations for communication measures. Using the lately emerged Swiss strategy as one example, this chapter addresses the widespread tendency in biodiversity communication to avoid moral language. This reservation, we argue, is grounded in several common misconceptions of ethics. Having provided some clarifications in the previous chapters, this chapter advocates a more differentiated and deliberate use of moral and ethical categories in biodiversity communication.

As additional information that shall encourage broader debate about ethical questions among Europeans, **chapter 10** finally presents a synopsis of all available European national biodiversity strategies with special regard to communication and ethics. The Annex provides summarising tables that list the documents' types and ties, name the responsible protagonists and present formal characteristics and key aspects. This survey can be used to select strategies for further research.

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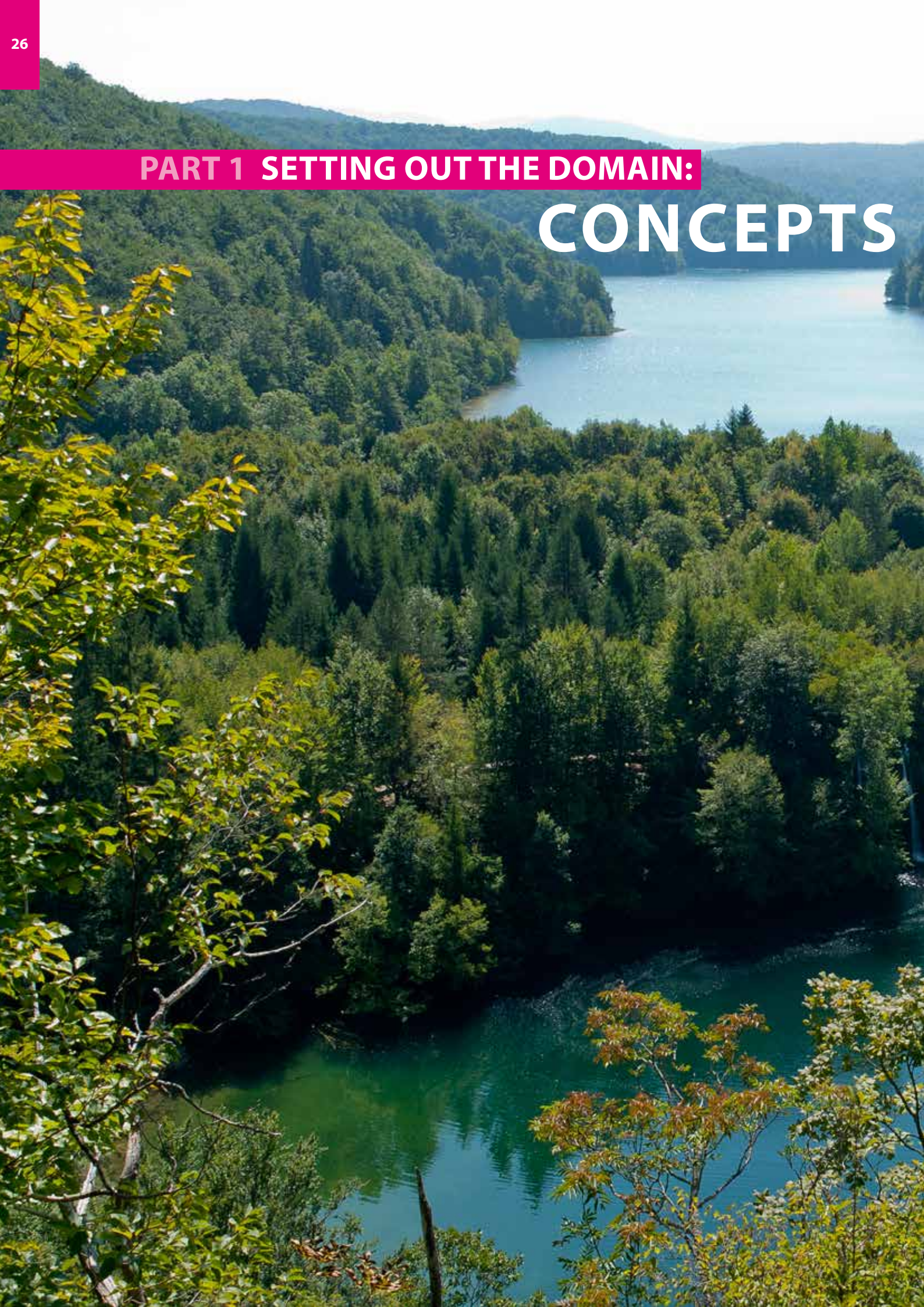


PART 1 SETTING OUT THE DOMAIN: CONCEPTS

AND DEMARCATIONS

1 ETHICS, BIODIVERSITY AND COMMUNICATION

Our analysis starts out with a conceptual clarification. This clarification is needed because the debate on biodiversity is suffering from three conceptual fallacies.

1. "Ethics" is equated with "intrinsic value"
2. "Biodiversity" is equated with "nature conservation"
3. "Communication" is equated with "advertisement"

To get these three key concepts straight, this first chapter clarifies our understanding of ethics (→ section 1.1), biodiversity (→ section 1.2) and communication (→ section 1.3).

1.1 Ethics: More than intrinsic value

Communication on biological diversity often displays a very particular understanding of ethics: Only those reasons are counted as "ethical" reasons that don't in any way refer to human-well-being. Ethical arguments, it seems, refer to biological diversity as such, not to human needs, preferences or desires. In its preamble, the Convention of Biological Diversity, for example, lists "intrinsic value" in line with but obviously as different from other values of biodiversity, stating that it is

> *"conscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components, [...]" (CBD 1992, preamble)*

With this statement the contracting parties support the view that biodiversity has value not merely for human purposes but "in itself".

Like the CBD, most national biodiversity strategies demonstrate respect for or sympathy with the idea of an intrinsic value of biological diversity. However, it remains unclear how "ethical" reasons relate to other, more down-to-earth reasons like economic and ecological arguments. When the role of ethics is limited to those arguments that don't refer to human well-being, ethical expertise is restricted to intrinsic value, while expertise concerning other values is attributed to other disciplines: ecological value to ecologists, economic value to economists, social value to social scientists and so on. As a result, **ethical reasons appear as supplementary reasons** that can be added to all other kinds of reasons without being related to them. Exemplarily, the German biodiversity strategy – which laudably dedicates a separate chapter to ethics – explains:

> *"In addition to the aforementioned ecological, economic, social and cultural reasons for preserving biological diversity, there are also sound ethical reasons" (GNBS 2007: 15).*

In this section we argue that such an understanding of ethical reasoning is too narrow. The opposition of "intrinsic value" to all other kinds of values reflects a well-known bifurcation of environmental ethics: conservation **for the sake of humanity** (usually being referred to as anthropocentrism) on the one hand, conservation **for the sake of nature** (being referred to as bio- or ecocentrism) on the other. The quest for an appropriate foundation of environmental ethics is an ongoing task of moral philosophy. However, with regard to concrete problems and pragmatic application it is not the only one and probably not even the most important one. Ethics in biodiversity communication should therefore not be restricted to the question if biological diversity has intrinsic moral value.

Ethics in biodiversity communication should not be restricted to the question of intrinsic moral value of biological diversity.

The widespread representation of ethical arguments as supplementary arguments asserts that

1. economic, ecological and cultural arguments have nothing to do with ethics,

2. ethics of biodiversity has nothing to do with human needs, desires and interests.

We consider both of these assertions to be wrong.

In the first paragraph we argue that ethical assumptions are an integral part of any argument within the biodiversity discourse. Rather than hiding them behind the facade of "facts" we recommend making them more explicit for communication purposes (→ paragraph 1.1.1).

Special attention is given to **ecological arguments**, which dominate the environmental discourse. On one hand, the concept "ecological" clearly refers to the science of ecology that studies interactions between organisms, populations, species and their respective biotic and abiotic environments. On the other hand, ecology is often equated with environmentalism by the broad audience. Ecologists are regarded as those who speak up for other species rather than for the human: "Greenies care more about species than people" is an opinion that often triggers conflicts in communication about biodiversity (Hesselink et al. 2007: 37). To be able to address this conflict it is necessary to differentiate precisely between ecological and normative claims (→ 1.1.2).

Unlike its prevailing use within the biodiversity discourse, we regard ethics as a **branch of philosophy** that is comprehensively concerned with questions of right, wrong, good, and bad. While descriptive ethics merely describes what people empirically consider good or bad, normative ethics aims at a theoretical foundation of moral norms. Where the values and norms under consideration regard the environment and humans' relation to it, we speak of environmental ethics. Environmental ethics, thus, is regarded here as a field of application, not a programme of justification (→ 1.1.3).

Having defined environmental ethics as a field of application we still have to address the question of justification: Whether or not human needs, interests and desires are a sufficient foundation for ethical norms with regard to the environment is the crucial question that divides the field into anthropocentric and non-anthropocentric fractions (→ 1.1.4).

Building on the pragmatic convergence of different justifications, we explain why the centralist terminology as such is misleading and suggest a more inclusive approach to environmental ethics (→ 1.1.5).

1.1.1 On the differences between facts, values and norms

Factual statements alone cannot justify normative claims. Logically speaking, descriptive premises need to be supplemented by normative premises to allow for normative conclusions. In order to identify potential disagreements and conflicts, communication on biodiversity should be explicit about its underlying normative assumptions.

In the early 18th century, the Scottish philosopher David Hume named a problem that is still virulent in today's literature on biodiversity politics: the Is-Ought problem. He criticised that many authors make claims about what ought to be done exclusively on the basis of statements about what is the case. In contrast to this widespread type of reasoning, Hume insisted that there is a significant difference between descriptive and normative statements, that is between statements about what is the case and statements about what ought to be done.

"In every system of morality, which I have hitherto met with, I have always remarked, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surprized to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not. This change is imperceptible; but is, however, of the last consequence. For as this ought, or ought not, expresses some new relation or affirmation, it is necessary that it should be observed and explained; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it. But as authors do not commonly use this precaution, I shall presume to recommend it to the readers;"

Box 1.1 The Is-ought problem according to David Hume (1739). A Treatise of Human Nature, Book, Part 1, Sect. I

In a similar vein, the English philosopher George Edward Moore argued in 1903 that there is no way of defining the morally good by natural qualities only. According to Moore, the argument that something is good because it is natural is a "naturalistic fallacy".

> "To argue that a thing is good because it is 'natural', or bad because it is 'unnatural', in these common senses of the term, is therefore certainly fallacious; and yet such arguments are very frequently used. […] Among attempts to systematise an appeal to nature, that which is now most prevalent is to be found in the application to ethical questions of the term 'Evolution' – in the ethical doctrines which have been called 'Evolutionistic'. These doctrines are those which maintain that the course of 'evolution', while it shews us the direction in which we are developing, thereby and for that reason shews us the direction in which we ought to develop."

Box 1.2 The naturalistic fallacy according to George Edward Moore (1903), Principia Ethica, Chapter 2, § 29

With regard to the argumentation in the analysed national biodiversity strategies it seems important to remember these basic philosophical insights. More often than not, the strategies name empirical facts and then draw normative conclusions without naming their normative premises. Sure enough, we often use incomplete arguments in every-day language. We tell our children to wear their rain jacket by saying "It is raining outside" - and don't explicitly say "You ought not to get wet". However, a political strategy cannot be based on such self-evident normative premises because those premises are highly contested in a pluralist society. Hence, when incomplete arguments are used in the strategy papers, potential differences and conflicts stay in concealment behind the alleged "facts". If a person or a group does not accept the normative conclusion, one does not know if she doesn't agree with the factual assertions or with the normative premises.

eXample

Let us illustrate the Is-Ought problem by some examples that we presented in our research on the German biodiversity strategy (Eser et al. 2011). The table presents some statements typically presented as arguments in favour of biodiversity conservation (GNBS 2007). Note well, that all of these arguments are presented in the indicative mode, not in a normative.

Table 1.1 Selected arguments in the German biodiversity strategy (GNBS 2007)

no.	Argument	page
1	Biological diversity is the existential basis for human life.	9
2	We humans share the planet with many other living creatures.	10
3	The greater the degree of genetic diversity, the more able a species is to adapt to changing environmental conditions.	10
4	Nature provides us with a range of services which would otherwise need to be resolved by technical means, at great expense and with substantial effort.	12
5	Experiencing nature is a key aspect of our personal development.	13

All of these facts seem intuitively plausible as arguments in favour of biodiversity. If one accepts that the quoted factual statements on biodiversity are right, the normative claims of the CBD seem to follow directly (for a detailed explanation of this triad of claims → section 1.2.2):

- We ought to preserve biodiversity.
- We ought to use biodiversity sustainably.
- We ought to share the benefits of biodiversity equitably.

When incomplete arguments are used, potential differences and conflicts stay in concealment behind the alleged "facts".

However, one might just as well simply answer "So what?" to all of the statements listed in the table. In order to justify the normative claims made in the CBD, the quoted factual premises need to be supplemented by normative premises in order to allow for normative conclusions. Once again, we illustrate this by means of an example:

The "existential significance" (GNBS 2007: 9) of biodiversity is probably the reason that is most often presented in favour of biodiversity conservation. Unless the normative premise is clearly stated, though, sceptics cannot find out where exactly they disagree: on the factual or on the normative claims. Hence, for successful communication we need to divide up the incomplete argument in premises and conclusions:

- P1: Biological diversity is the existential basis for human life.
- P2: Human life ought to be preserved.
- C: Biological diversity ought to be preserved.

Only such a transparent argument, which makes normative assumptions explicit, opens the floor for a debate about the really contested aspects. Critics might either question the accuracy of the descriptive premise P1: Is it really true that all elements of biodiversity are necessary for human life to exist? What about species that harm human life (like pathogenic organisms)? Others might question the normative premise P2: Do we really have to sustain "human life" on earth – or rather the lives of humans? Are humans, who are not yet born, included in this claim in the same way as living people? Is it a claim about humanity as such – or about individual humans?

If our communication wants to reach people who do not consider the conservation of biodiversity a meaningful and important claim from the beginning, we have to be aware of and very explicit about our own normative stances.

1.1.2 The limits of ecology

The characterisation of an argument as "ecological" claims scientific credibility and objectivity for it. Ecological reasons often refer to the complexities of *ecological* systems and the uncertainties they bring about. Practical coping with risk and uncertainty, however, is a political and not a scientific endeavour.

Ecological arguments are particularly important in communication on biodiversity. For example, "[*e*]*cological reasons for preserving biological diversity*" rank first in the German biodiversity strategy (GNBS 2007: 10). The label "ecological" suggests that the reasons presented here are scientific reasons. In public discourse, "scientific" is equated with "objectively true" and "value-free". However, the key term "ecological" stands for coping with complexity and uncertainty rather than for the science of ecology. It addresses human action rather than species interactions – although the first are evidently inspired by knowledge about the latter.

In the German biodiversity strategy, the chapter on ecological reasons begins as follows:

> *"The precautionary principle applies to biological diversity. In order to safeguard the development opportunities for future generations, all species, as far as possible, must be preserved in their genetic diversity and in the diversity of their habitats, even if their respective functions in the natural balance and their benefits to humans are not yet fully understood" (GNBS 2007: 10).*

Sure enough, the "precautionary principle" and "possibilities of future generations" are good arguments in favour of biodiversity – however, they are not "ecological" arguments.

The **precautionary principle** is not a principle of ecology, but a principle of European environmental politics as mentioned in the Maastricht Treaty 1992 and communicated by the European Commission 2000 (COM(2000): 1). The precautionary principle is an answer to uncertainties which are the outcome of the complexities of ecological systems – hence the reference to ecology. However, the acceptance of the precautionary approach does not per se favour pro-biodiversity policies.

> *"[D]ecision-makers are constantly faced with the dilemma of balancing the freedom and rights of individuals, industry and organisations with the need to reduce the risk of adverse effects to the environment, human, animal or plant health" (COM(2000): 8).*

This is true for biodiversity politics as well. The Convention on Biological Diversity itself can be read as a compromise between the fulfilment of existential needs of people on the planet and the reduction of negative impacts on all levels of biological diversity.

1.1.3 What is environmental ethics?

Environmental ethics is a field of application, not a programme of justification.

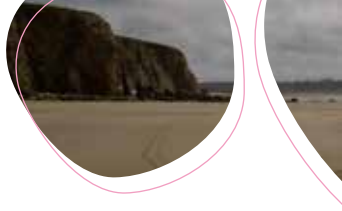
According to our understanding, environmental ethics is ethics with regard to environmental issues. It is, thus, characterized by a specific type of application, not a particular type of justification. In contrast to the dominant use in Anglo-Saxon philosophy, we do not restrict environmental philosophy to the study of the moral relationship of humans to the environment. Rather, we include moral issues between different human beings that are raised by actions that impact the natural environment and its living and non-living elements.

Apart from the question whether nature or particular parts of nature bear moral status (and if so, why), many important ethical questions exist with regard to the environment that don't require this question to be answered. Irrespective of whether or not biodiversity is an end in itself, the question remains: Who gets the right to use nature as a means for his or her ends – thereby compromising other peoples' right to use nature for their own ends? How can the benefits of biological diversity be distributed equally – and what exactly does that mean? To ignore different kinds of "use" of biodiversity and to neglect questions of distributive justice would mean a constriction of the field of environmental ethics that is not only inappropriate to practical demands, but also to a comprehensive theoretical reflection.

In this report, the question whether or not nature bears moral status and thus has moral rights is of less significance than for fundamental research on environmental ethics. Being a contribution of applied ethics, our study refers to national biodiversity strategies and is thus embedded in the United Nations Convention on Biological Diversity, which is in turn rooted in the principle of sustainable development. Principle 1 of the Rio-Declaration clearly states:

> *"Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature".*

It is against this background that we are seeking good arguments in favour of implementing biodiversity policies. Setting aside the fundamental questions, we focus on different ways in which humans can be concerned or affected by the ongoing loss of biodiversity.



1.1.4 The meaning of anthropocentrism

Anthropocentrism is the conception that norms with regard to biodiversity can only be justified with reference to human needs, desires, interests or emotions.

"Human beings are at the centre of concern" – this quotation from the Rio-Declaration expresses what generally is referred to as an anthropocentric position. However, the philosophical concept of anthropocentrism does not mean that nothing but humans matters for ethics. Anthropocentrism does not deny the moral relevance of nature. We can anthropocentrically argue for a hands-off strategy that keeps humans out of natural reserves. Thus, anthropocentrism does not pertain to the *content* of moral norms with regard to nature but to their *justification*.

The core of the philosophical debate about anthropocentrism is the question: Can we justify moral and legal norms in favour of animals, plants, species or landscapes without any reference whatsoever to human interests, needs, desires or feelings?
The answer to this question forms the "centristic divide" in the field of environmental ethics:

- The anthropocentric answer is: No, we can't. Reference to humans is necessary to justify environmental norms:
  "[O]ur moral duties with respect to the natural world are ultimately derived from the duties we owe to one another as human beings" (Taylor 1986: 11).

- The non-anthropocentric answer is: Yes, we can – and we should. Reference to humans is not sufficient to justify environmental norms:
  "[W]e are morally required to do or refrain from doing certain acts insofar as those acts bring benefit or harm to wild living things in the natural world" (Taylor 1986: 11).

The non-anthropocentric fraction of environmental ethics can be further divided into more kinds of "centrism" according to the reasons they accept as justification:

- The pathocentric answer is: Yes, the suffering of any being that is able to suffer is a reason. We ought to avoid suffering – no matter if the suffering being is human or not:
  "The question is not 'Can they reason?' nor 'Can they talk?' but :'Can they suffer?'" (Bentham 1828 [Orig. 1789]: 236)

- The biocentric answer is: Yes, the well-being of any living organism is a reason: *"I am life which wills to live, and I exist in the midst of life which wills to live" (Schweitzer 1987).*

- The ecocentric answer is: Yes, the integrity and stability of ecosystems are reasons. This kind of reasoning does not consider individual beings as morally relevant, but rather entities above the individual level: *"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold 1970 [Orig. 1949]: 262).* As those approaches regard humans as parts of the ecosystem, they are also called holistic ethics.

It is misleading that this common terminology defines environmental philosophies in terms of their presumed **"centre"**. In fact, the intention of non-anthropocentric approaches is not to shift the focus, but to **expand the boundaries** of existing ethics. Their main aim is to **include more entities** in the moral community than just humans. However, by naming certain properties that could qualify other entities to enter the moral community (i.e. rationality, ability to suffer, sensitivity), these attempts are in danger of excluding those human beings who do not have the named properties. Moreover, in emphasising the subordination of individual under collective interests, holistic arguments are in danger of undermining (individual) human rights and paving the way to ecofacism. In response to this concern exponents of biocentric or holistic ethics answer that

their expanded ethics wants to postulate additional moral obligations rather than substituting already existing ones like the duty to respect the rights of our fellow human beings. Given that this is the case, it still remains unclear how the new "ecological" obligations are to be weighed against traditional "humanist" obligations.

The problem as to how non-human entities can be included into the moral community without causing serious theoretical and practical trouble is yet unsolved. Theoretically, the fact that different concepts of rights and duties cannot be integrated into one coherent theory is unsatisfactory: If the rights of other organisms or ecosystems are equal to human rights, how can we live without harming someone's rights? And if the rights of other organisms or ecosystems are not equal to human rights, why call them 'rights'? Practically speaking, the assumption that each and any living being has an intrinsic value does not give any guidance in political decisions with regard to biological diversity.

1.1.5 Moving beyond centrism: an inclusive approach to ethics

An inclusive approach to environmental ethics acknowledges the irreducible relationality of humans and non-human nature. It focuses neither on humans nor on nature but on the quality of their relationship.

From a pragmatic perspective criticism has been raised against the binary opposition of anthropocentrism and non-anthropocentrism. With regard to practice, pragmatists argue, the distinction is not helpful because both approaches amount to the same set of practical consequences. Different theories converge in practice (Norton 1991). The pragmatic answer to the question as to whether we can justify environmental norms without reference to humans, hence, would be: "Maybe we can – but there's no need to. Reference to humans is sufficient to justify environmental norms."

With regard to this practical convergence, Mary Midgley (1994) has criticized centralist thinking and suggested an inclusive kind of humanism as basis for ethics (→ box 1.3).

> "We need […] to recognize that people do right, not wrong, to have a particular regard for their own kin and their own species. From a practical angle, this recognition does not harm green causes, because the measures needed today to save the human race are, by and large, the same measures needed to save the rest of the biosphere. There simply is no lifeboat option by which human beings can save themselves alone […]. If there were, this issue of emotional centrality might be a serious one, but there isn't. […] I don't, therefore, see much point in disputing hotly about the rightness of anthropocentrism in this very limited sense. […] What is commonly meant by the word anthropocentric today […] is simple human chauvinism, narrowness of sympathy, comparable to national or race or gender chauvinism. It could also be called exclusive humanism, as opposed to the hospitable, friendly, inclusive kind."

Box 1.3 The idea of inclusive humanism (Midgley 1994: 111)

As we have argued elsewhere (Eser & Potthast 1999, Eser 2004), such an inclusive approach to environmental ethics can be justified not only for pragmatic but also for theoretical reasons. Human life cannot be appropriately conceptualised independently from relations to others. Human beings become who they are in exchange with and in relation to their environment – human as well as non-human. Much like the infant who physically and emotionally depends on its parents, humans depend not only on other humans but also on nature in many ways. This dependence is generally depicted in the wide-spread image of "mother" nature. Conversely, the future fate of biological diversity depends on human decisions and actions. Human activities have not only impaired biological diversity but have also increased diversity,

for example by the creation of cultural landscapes and the breeding of animals and plants.

Humans and nature therefore are in close relationship with each other. In every relationship there are conflicting needs – there's no reason to assume we could avoid such conflicts in our relation to nature. However, attempts to solve such conflicts by subordinating one side under the other will generally terminate the relationship rather than the conflict. The solution of conflicts between mutually dependent partners cannot be found by asking who's at the centre. If we accepted the irreducible relatedness

The solution of conflicts between mutually dependent partners cannot be found by asking who's at the centre.

of human existence as the basis for environmental ethics, focussing on either humans or nature would no longer make sense. Rather, environmental ethics would focus on the quality of the relationship between humans and nature. Is it exploitive and ruthless? Or is it caring and supporting? Instead of a principled prioritisation of humans over nature or nature over humans, an inclusive ethics would not only practically but also theoretically seek for solutions that would allow for the survival of the relationship.

Without pretending to solve the debate between anthropocentrism and physiocentrism, we endorse an inclusive approach for the purpose of this study. More often than not, measures to advance the flourishing of biological diversity also contribute to human well-being – provided that well-being is defined in broader terms than short-term-profits. The weal and woe of planet Earth does not conflict with the weal and woe of human beings as compellingly as the dominant strand of the environmental discourse might make people believe. The opposition of human well-being on the one hand and the well-being of non-human organisms and the integrity of ecosystems on the other ignores humans' dependence on nature as much as their influence on nature.

Rather than perpetuating binary oppositions (nature vs. culture, anthropocentrism vs. biocentrism, intrinsic value vs. instrumental value) we favour an inclusive approach that recognizes the relation between humans and nature as irreducible. The way we live is "natural" as much as it is"cultural". It comprises dependence on nature as much as dominance of nature. It doesn't make sense to conceive of human beings as if they were separable from other individual beings or from nature. We are inextricably related to our human and nonhuman environments – as individuals as well as societies. What matters for environmental ethics – practically and theoretically – is the manner in which we shape this relation. Do we consider the others (human and non-human) as nothing but means to our own ends? Or do we engage in multiple relationships in which we take responsibility for the well-being of others as well?

This may sound like a cheap way out: Instead of debating the moral relevance of human beings and natural entities, we seem to claim a win-win-situation: What's good for biodiversity is good for human beings as well. This is not the case. There are many actions and institutions that harm not only biodiversity but also many people – while just a few people benefit from them. As many practical experiences over the last years have shown, the reduction of poverty and the conservation of biodiversity don't necessarily go hand in hand (see Roe & Elliot 2010 for an excellent collection of respective articles). Nevertheless, an inclusive approach to ethics would focus its attention on both: humans and non-human entities. Rather than trying to determine who's at the centre, it would try to figure out the limits of their respective consideration.

1.2 Biodiversity: More than conservation

Having shown that ethics means far more than reference to the intrinsic value of biodiversity, we can now address the second common fallacy: that "biodiversity" is a synonym for "conservation". Sure enough, the word has been coined and set onto the political agenda with the aim of halting the global biodiversity loss of (→ paragraph 1.2.1). However, the United Nations Convention on Biological Diversity (CBD), to which the national biodiversity strategies relate, encompasses more than this single goal. It also addresses sustainable use and the fair and equitable sharing of benefits (→ paragraph 1.2.2), which must be reflected in an ethical analysis. Biodiversity, as a concept, clearly refers to entities out there in the world. However, the construction of its very meaning reflects the complex and difficult negotiation processes that preceded the Convention. As the term was able to bring people with different interests and agendas into cooperation, it is interpreted as a boundary concept (→ paragraph 1.2.3).

1.2.1 The making of 'biodiversity'

The term biodiversity was coined by concerned scientists to raise public awareness of the ongoing loss of species and habitats. It explicitly transcends the boundaries of classical science by bridging the gap between facts and values. 'Biodiversity' is only appropriately addressed if the moral impregnation of the concept is taken into account.

The 1986 Forum on Biodiversity in Washington D.C. is considered to be the birth date of the term 'biodiversity' (Potthast 1996). This meeting, organised by Walter G. Rosen, was explicitly designed for a political purpose. Convinced that the increasing loss in biological diversity called for more research on this topic, Rosen had suggested the forum and invented the term as the short form of ' Biological Diversity' - not least due to its appeal to the public. Although the National Science Foundation, which co-sponsored the meeting with the Smithsonian Institute, was concerned about its reputation for maintaining objectivity and wanted to ensure that the forum didn't turn into an exercise of advocacy, this is exactly what happened. Dan Janzen, invited speaker at the forum, remembers:

> *"The Washington Conference? That was an explicit political event, explicitly designed to make Congress aware of this complexity of species that we're losing. (...) A lot of us went to that talk with a political mission" (Dan Janzen In Takacs 1996: 37).*

For scientists, having an admittedly political mission is remarkable. Traditional philosophy of science holds that scientists have to be unbiased and objective. Value judgements or even political activism are traditionally beyond the scope of empirical sciences. Historian of science David Takasc has interviewed many protagonists of the Washington conference and the subsequent politics of biodiversity to understand how scientists justified their political engagement. Exemplary for their attitude towards value neutrality is an answer by the renowned ecologist Paul Ehrlich that explicitly crosses the boundary between Is and Ought:

> *"In my view, it's preposterous for people who have spent their entire life immersed in a problem to present only a value-neutral thing. And politicians don't want you, ordinarily – they want not only to know what you think the situation is, they want at least suggestions on what society ought to do about it" (Paul Ehrlich in Takacs 1996: 179).*

And he goes on to cite an example that illustrates the perceived urgency of action:

> *"[I]f you're standing in a building that's burning down you don't just stand up and give measurements of the temperature and so on. You say, 'Let's get […] out of here' in addition" (ibid.).*

The expansion of the legitimate boundaries of science goes even further. Asked about the abbreviation "biodiversity", Rosen explains:

> *"It was easy to do: all you do is take the 'logical' out of 'biological'. (...) To take the logical out of something that's supposed to be science is a bit of a contradiction in terms, right? And yet, of course, that's why I get impatient with the Academy, because they're always so logical that there seems to be no room for emotion in there, no room for spirit" (Walter Rosen in Takacs 1996: 37).*

The integration of emotions and values into "something that's supposed to be science" is really remarkable. *Traditionally*, emotions and values are considered to belong to either the personal or the social sphere – both of them being neatly separated from science. In contrast to this view, the making of the term 'biodiversity' indicates that the concept is morally impregnated. 'Impregnated' here means that the values and moral beliefs which shaped the concept are not discernible on its surface, but nevertheless are very effective when the concept is applied in a political context. Bearing in mind the moral impregnation of the concept, communication on biodiversity cannot be restricted to the communication of facts – it has to integrate communication about values, too.

The communication on biodiversity cannot be restricted to the communication of facts – it has to integrate communication about values.

1.2.2 Save it, use it, share it: the triad of sustainability

The meaning of biodiversity was significantly reshaped during the negotiations preceding the Earth Summit. The final document, the Convention on Biological Diversity, not only addresses issues of conservation, but also sustainable use and fair sharing of benefits. This triad of objectives reflects the three dimensions of sustainable development: ecology, economy and society.

The driving force behind the invention and promotion of biodiversity was a morally driven concern about the increasing loss of species and their habitats. However, biologists were not the only ones to shape the concept. The political event that brought biological diversity to a broad public was the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, in 1992, commonly known as the Earth Summit. And during the negotiations preceding the Summit, the meaning of biodiversity integrated a lot more aspects.

A year after the Washington conference, in 1987, the World Commission on Environment and Development presented its report "Our Common Future". This report stressed the importance of conserving "the sum and variety of species on earth" and proposed a "Species Protection Convention". The fact that the final document was ultimately named Convention on Biological Diversity was the result of intervention of scientists who insisted that this was the more appropriate term. Fiona McConnell, head of the International Division in the United Kingdom Department of the Environment, and Chair of the UK Advisory Group on Biodiversity, remembers in her history of the CBD (McConnell 1996):

> *"Because the phrase 'conservation of biological diversity' was so cumbersome a proposal to revert to the shorter, tra-*

ditional concept of 'nature conservation' appealed to many delegates who had no deep knowledge of the subject. But this was fiercely attacked by the few scientific experts present who had a hard but eventually successful task in convincing the ignorant majority that 'biological diversity' was the correct term" (McConnell 1996: 5).

Thus from the beginning, scientists quite successfully claimed expertise for the question at stake. However, they were not the only ones to bring their concerns onto the table. During the negotiations preceding the Convention on Biological Diversity a lot of different voices had their say, too.

At UNEP's 15th Governing Council in May 1989 the idea of an umbrella convention on biodiversity was subject to a fierce debate. The developing countries, organised as G77 (the Group of 77 countries), raised sincere objections. The convention was criticised as an initiative by the North to globalise control, management and ownership of biological diversity so as to ensure free access to resources for their biotechnology industry (Shiva 1993). These reservations were sustained by the wording in the Brundtland Report that called biological diversity "a common heritage".

This phrase disguises the fact that genetic resources as prospective raw material for biotechnology in agriculture and pharmaceuticals are mainly located in the countries of the South whereas the technologies to make use of them are situated in the North. The alleged neglect of national sovereignty stimulated concerns that the developing countries would not be allowed to profit from the abundance of their natural wealth. Without any further regulations, Third World activists argued, the Northern countries would gain free access to their resources without sharing the resulting benefits. Therefore, they wanted to see biotechnology and the issue of equitable sharing of benefits included into the convention.

Another highly contested field were the safety concerns related to release and marketing of genetically modified organisms (GMOs). The majority of the developing countries and the European Community insisted on the inclusion of a biosafety protocol. The United States strongly opposed this suggestion. Nevertheless, the UNEP's Governing Council finally authorised the Executive Directo to start work on an internationally binding instrument which would not only address conservation questions but also social and economic issues and the use of genetic resources in biotechnology development (McConnell 1996).

It took three years of nerve-racking negotiations until a text of the Convention was finally agreed upon in Nairobi on May 22, 1992, that included the demand of a fair and equitable sharing of the benefits arising from biotechnology as well as the consideration of the need for a biosafety protocol. Two weeks later, the Convention was opened for signature at the "Earth Summit" in Rio, June 5, 1992. By the end of the Summit it had been signed by 156 countries. The Convention on Biodiversity legally took effect on December 29, 1993.

As a result of this long history of negotiation, the Convention on Biological Diversity is much more than just a tool of global nature conservation. According to Article 1 its aim is to regulate not only conservation of biodiversity, but also its sustainable use and the fair sharing of resulting benefits:

"The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding" (CBD 1992, Art.1).

This **triad of objectives** clearly resembles the **three dimensions of sustainable development**: ecology, economy and society. Sustainable Development was set onto the global political agenda in Rio as well. It is a concept meant to reconcile the conflicting interests of development and environment by integrating ecological, economic and social aspects (for a detailed account of the integrative achievement see Eser et al. 2011). The Convention on Biological Diversity – as well as the respective national strategies – is committed to the same goal.

The triad of objectives of the CBD reflects the three dimensions of sustainable development: ecology, economy and society.

@ **The text of the CBD and all related documents are available at: *www.cbd.int***

Preamble of the Convention on Biological Diversity

The Contracting Parties,

Conscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components,

Conscious also of the importance of biological diversity for evolution and for maintaining life sustaining systems of the biosphere,

Affirming that the conservation of biological diversity is a common concern of humankind,

Reaffirming that States have sovereign rights over their own biological resources, Reaffirming also that States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner,

Concerned that biological diversity is being significantly reduced by certain human activities,

Aware of the general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures,

Noting that it is vital to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at source,

Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat,

Noting further that the fundamental requirement for the conservation of biological diversity is the insitu conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings,

Noting further that ex-situ measures, preferably in the country of origin, also have an important role to play,

Recognizing the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components,

Recognizing also the vital role that women play in the conservation and sustainable use of biological diversity and affirming the need for the full participation of women at all levels of policymaking and implementation for biological diversity conservation,

Stressing the importance of, and the need to promote, international, regional and global cooperation among States and intergovernmental organizations and the non-governmental sector for the conservation of biological diversity and the sustainable use of its components,

Acknowledging that the provision of new and additional financial resources and appropriate access to relevant technologies can be expected to make a substantial difference in the world's ability to address the loss of biological diversity,

Acknowledging further that special provision is required to meet the needs of developing countries, including the provision of new and additional financial resources and appropriate access to relevant technologies,

Noting in this regard the special conditions of the least developed countries and small island States,

Acknowledging that substantial investments are required to conserve biological diversity and that there is the expectation of a broad range of environmental, economic and social benefits from those investments,

Recognizing that economic and social development and poverty eradication are the first and overriding priorities of developing countries,

Aware that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential,

Noting that, ultimately, the conservation and sustainable use of biological diversity will strengthen friendly relations among States and contribute to peace for humankind,

Desiring to enhance and complement existing international arrangements for the conservation of biological diversity and sustainable use of its components, and

Determined to conserve and sustainably use biological diversity for the benefit of present and future generations,

Have agreed as follows:

Box 1.4 The preamble of the CBD

1.2.3 Biodiversity as boundary concept

Biodiversity is an ill-defined concept. This vagueness has enabled the cooperation of very diverse stakeholders. The conflicts which were resolved in the concept emerge again when it comes to on-ground application of the CBD.

The three objectives of the CBD reflect the heterogeneous and conflicting interests that had to be reconciled, or at least addressed, during the negotiation process. For evident reasons, a more detailed agreement on these diverging objectives could not be achieved during the negotiations. In view of the diverse, partly even contradictory interests that were at stake, the interesting question is: How was it at all possible to reach a consensus about a convention? As we have argued elsewhere (Eser 2003) this cooperation was possible because the new term 'biodiversity' was more open to different interpretations than the traditional concept of nature conservation. Biologists attribute different notions to biodiversity than the biotech industries, and the term has different meanings for farmers in developing countries than for environmentalists in the industrialised countries. This can be illustrated by listening to different voices about the CBD:

In her history of the negotiations Fiona McConnell writes about the aim of the CBD:

> *"I believe that the majority of participants in the process sincerely believed that they were working for the benefit of life on earth, for maintaining its diversity for all kinds of scientific, ethical, economic and cultural reasons, for slowing down the destruction of species and their habitats, for placing the concept of sustainable use firmly alongside the more traditional one of conservation and for pointing the way to a fair sharing of responsibilities and benefits". (Mc Connell 1996: xi)*

For her, the overbearing objective is "the benefit of life on earth". Economic issues and distributive justice are subordinate to the overall concern of protecting the natural environmental and its usefulness for future generations.

Quite the opposite interpretation is given by Daniel Putterman, a member of the US Agency for International Development (USAID):

> *"[D]espite appearances of the contrary, the convention is not an attempt by conservationists to lock up the world's genetic resources behind a wall of preservationism. Quite the contrary, it is meant to promote world trade in these resources, should result in more research and development, and deserves the cooperation of the international research community" (Putterman 1994: 553).*

The readership of Putterman's article is quite different from McConnell's. Putterman's paper is published in the prestigious journal "Nature". He addresses "*researchers in industrialised countries, whose careers depend on the free flow of these resources [and who] are upset by uncertainty over future access to them*" (ibid.).

Out of the same concern the United States, having initiated the Convention in the first place, finally refused to sign the Convention because they considered it to be "seriously flawed" - seriously flawed, however, not in regard to the protection of the environment, but in regard to the protection of intellectual property rights of US biotechnology corporations.

Third World Activists, on the other hand, consider the Convention to be flawed for opposite reasons. Indian scientist and activist Vandana Shiva writes:

> *"In fact the convention is too strong on patents and too weak on the intellectual and ecological rights of indigenous peoples and local communities" (Shiva 1993: 152).*

She argues that the Convention does not embrace the principle of sovereign rights of local communities to conserve and use biodiversity. To Shiva, the conservation of biodiversity is and should be linked inseparably to their cultural survival. Instead, she says, the Convention assumes that the conservation of biodiversity depends essentially on biotechnology. This transformation has important impacts:

> *"Not only is biodiversity devalued from being a 'means of production' into being mere raw material, it is also displaced by the genetically uniform biotechnology products" (ibid. 153).*

Quite the opposite interpretation is given by Mohammed H.I. Dore and Jorge M. Nogueira (1994). In a paper on the structural end macroeconomic reasons for deforestation of the Amazonian rain forest they argue that the CBD is necessary (though not sufficient) to promote a more sustainable use of Amazon natural resources. They see three broad political principles at the heart of the Convention:

> *"The idea that countries have 'the sovereign right to exploit their own resources persuant to their own environmental policies'; that well-to-do countries have an obligation to help their poorer neighbours abide by the pact by offering financial aid and technology, and that species-rich but cash-poor nations should share in the profits from products made from their biological resources" (Dore & Nogueira 1994: 495).*

According to this interpretation, the political process that was induced in favour of the conservation of biodiversity at least partly benefited vital interests of developing countries, too. It enabled them to force more powerful industrialised nations to argue seriously about rights of property, land use, profits and trade.

While anthropologist Arturo Escobar argues that, under the label of 'biodiversity', new, place -based ways of development might be more easily accepted, Jane Guyer and Paul Richards (1996) critically point out that the rigorous exclusion of human activity from remaining untouched areas is often considered key to the defense of biodiversity. They raise the concern that the subsistence of indigenous peoples could be subordinate to the conservation of biodiversity.

This collection of different views on biodiversity shows how broad the spectrum of possible interpretations is. The hybrid character (Potthast 2001) of biodiversity, integrating science and politics, ecology and economy, conservation and development, is essential for its broad success. The term has therefore been interpreted as a boundary object (Eser 2003).

'Boundary object' is an analytic concept of science studies that explains how scientific objects can enable cooperation among different protagonists with different agendas. It is exactly due to their vagueness that they are extremely functional:

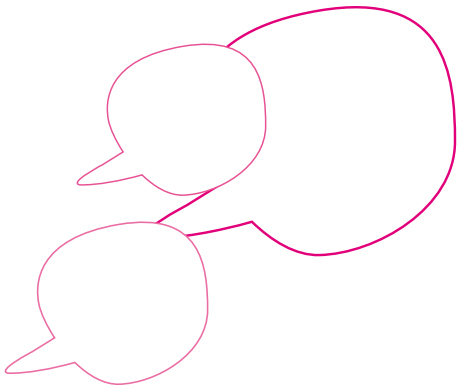
> *"This is an analytic concept of those scientific objects which both inhabit several intersecting social worlds […] and satisfy the informational requirements of each of them. […] These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds." (Star & Griesemer 1989: 393).*

Boundary objects integrate diverging interests of all parties in the process of problem solving. They function by representing different ideas of the involved persons in one object. However, this representation does not mean a consensus:

> *"When participants in the intersecting worlds create representations together, their different commitments and perceptions are resolved into representations*

> *(…). This resolution does not mean consensus. Rather, representations, or inscriptions, contain at every stage the traces of multiple viewpoints, translations and incomplete battles" (Star & Griesemer 1989: 413).*

If we grasp 'biodiversity' as such a boundary object, we understand why the implementation of the Convention is often a painstaking process: The different commitments that were reconciled in the term 'biodiversity' conflict again when it comes to its translation into concrete strategies and to practical application on the ground.



1.3 Communication: More than one-way information

Having argued that ethical reasoning comprises more than the assertion of intrinsic value, and that policies on biodiversity pertain to the goals of sustainable development rather than to those of traditional nature conservation, we now get to the third relevant concept that is at the centre of this study: communication.

Along with education and public awareness, communication is a central issue of the CBD. Article 13 obliges the contracting parties to promote know ledge about the importance of the conservation and sustainable use of biodiversity. Raising public awareness of biodiversity issues is part of this task (→ box 1.5). Although not explicitly mentioned in article 13, communication is generally considered the appropriate means for reaching this goal.

Article 13 of the CBD:
Public Education and Awareness

The Contracting Parties shall:

(a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and

(b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

Box 1.5 Article 13 of the CBD

Generally, the term "communication" can be used in two different ways: either with a direct object (to communicate something *to* someone) or with an indirect object (to communicate *with* someone *about* something).

1. We need to communicate the value of biodiversity.

2. We need to communicate *about* the value of biodiversity.

This grammatical difference marks a substantial difference in the meaning of the term itself. Communication can be understood as either a *unidirectional* (1.) or a *reciprocal* (2.) process. For the purpose of this study, we favour the latter concept.

The first section of this article explains why, from an ethical perspective, communication has to be regarded as a process of mutual understanding (→ paragraph 1.3.1). From the distinction between one-way and two-way communication follows another important distinction: the distinction between *strategically* and *essentially* good arguments. From a strategic point of view, an argument is good if it is effective: if the recipient, after getting the message, thinks and behaves in the way the sender intended. From a philosophical point of view, an argument is good if it is plausible and coherent. Section two explains this difference in more detail and gives examples from existing strategies to illustrate its importance (→ paragraph1.3.2).

1.3.1 The difference between advertisement and mutual understanding

Communication needs to be understood as a two-way process aimed at mutual understanding. In contrast, marketing communication is unidirectional and aims at influencing the receiver's behaviour.

Communication, Education and Public Awareness, in short: CEPA; is one of the cross-cutting issues of the CBD. For this reason, the CBD supports a special programme on CEPA that wants to provide politicians, educators and the general public with answers to their questions about the meaning and importance of biodiversity and the measures needed to sustain it (→ box 1.6).

What is the CEPA programme?

What is biodiversity and why should we be concerned about it? How can we use the biological resources of the planet in a way that ensures that they are available for generations to come? What does the Convention on Biological Diversity do to preserve the web of life? How do the programmes of work of the Convention contribute to the objectives of conservation and sustainable use of biodiversity and equitable sharing of the benefits from the use of genetic resources?

The Programme of Work on Communication, Education and Public Awareness, or CEPA, aims to assist Parties, educators and civil society to provide answers to these questions for a variety of audiences. Emerging from Article 13 of the Convention, the programme of work seeks to:

- *Communicate* the scientific and technical work of the Convention in a language that is accessible to many different groups;
- Integrate biodiversity into *Education* systems in all Parties to the Convention
- Raise *Public Awareness* of the importance of biodiversity to our lives, as well as its intrinsic value.

Box 1.6 The CEPA programme of the CBD

The CEPA programme has published a toolkit for National Focal Points and NBSAP coordinators (Hesselink et al. 2007). This toolkit presents an excellent definition of communication in its glossary that comprises both one-way and two-way communication (→ box 1.7):

One-way communication is unidirectional. A sender has a message and the function of communication is to get this message across. It is in this sense that the term "communication" is most often used in the national biodiversity strategies and the related communication material. Whenever we mean to increase *factual knowledge* about biodiversity, its relation to human well-being and the measures needed to sustain it, we use this kind of communication.

Communication

Communication is an activity in which a sender transmits a message, with or without the aid of media and vehicles, to one or more receivers, and vice versa. The way in which communication takes place is referred to as the communication process. The ideal form of communication is a two way process aimed at mutual understanding, sharing of values and action. For governments the two-way exchange of information is a means to gain cooperation of groups in society by listening to them first and clarifying why and how decisions are made. In an instrumental approach governments use communication with other instruments to support biodiversity conservation to address economic constraints and to motivate action. Governments also use one-way communication to inform audiences about policies and legislation.

Box 1.7 Definition of communication provided in the glossary of the CEPA toolkit (Hesselink et al. 2007: 294)

"The ideal form of communication is a two way process aimed at mutual understanding, sharing of values and action." (Hesselink et. al 2007)

However, it is important to acknowledge that in many cases statements that superficially appear to be merely factual turn out to comprise evaluative or normative statements when subjected to closer scrutiny. These evaluative and normative statements are not mere information that can be directly communicated, but judgements that can and need to be subject to debate.

When it comes to the question *as to* why we should take measures to conserve biodiversity and use it in a sustainable manner, own-way information is not sufficient. There is no such thing as "the value" of biodiversity than can be scientifically determined and then communicated to the public. What we need to justify our biodiversity strategies are value judgements – and these are per definition beyond the scope of any empirical science. We cannot communicate "the value" of biodiversity to the public but we can – and actually should – communicate *about* the value of biodiversity with as many people

and groups as possible. With regard to the value of biodiversity, educators cannot provide their audience with convenient answers. Rather, they have to encourage "value clarification", a process aimed at understanding how personal beliefs and values shape our relation to biodiversity and are shaped by our different backgrounds (→ box 1.8).

Values Clarification

An educational approach employing a variety of strategies, which enables learners to clarify and critically examine their own values, particularly those, which are unconscious or inarticulate. This process helps learners uncover how culture, ideology, gender, socioeconomic background and religion shapes ones deepest held personal beliefs and values and assists learners in determining how ones own values coincide or conflict with others. Genuine engagement with sustainability requires us to understand how these factors shape our values and thus our view of the world.

Box 1.8 Values clarification (Hesselink et al. 2007: 308)

Hence, communication is not only about giving answers, but also about raising questions – and being ready to listen to different answers. Communication about why a nation, a corporation, a group or an individual should actively support the goals of CBD cannot be restricted to facts. It has to comprise and stimulate a broad debate about contested values and norms.

As the 2010 goals of the European Union and of the global community have been missed, the European Union decided to "launch a major communication campaign" (ENBS 2011: Annex Action 3a) as one of the twenty courses of action laid out in its biodiversity strategy. The underlying idea is: If we are not successful in implementing the CBD, we have to "communicate it" better. This widespread understanding of communication comes with a direct object instead of an indirect object. Such an understanding gets quite close to what is defined as advertisement in the CEPA toolkit glossary:

Advertising

Those forms of PR and marketing communication aimed at the influencing and/or promoting purchasing behaviour with regard to the services and products of the organisation. Successful advertising is based on principles such as "perception is the only reality", "one picture is more powerful than a thousand words", "emotion is what triggers action". Advertising tools range from billboards and TV spots to direct mail.

Box 1.9 Definition of advertising, glossary of the CEPA toolkit (Hesselink et al. 2007: 294)

However, unlike selling a product or a service, campaigning for biodiversity is not such a single-minded process. In many cases, even biodiversity experts are not sure how to set priorities and how exactly to change the course of history in favour of a less negative impact of societal progress on biodiversity. According to Hesselink et al. (2007) the neglect of such expert disagreements is a common mistake made in communication. As a remedy, the authors recommend a switch to a two-way-understanding of biodiversity communication that encompasses teaching as well as learning, and talking as well as listening.

A common mistake

A common mistake of biodiversity experts is to want to 'educate' other people to convince them to think in the same way that they do. Biodiversity experts can often overlook that even ecologists disagree on the best course of action for conservation!

What can be done?

The first step in communicating biodiversity is to listen, and to respect the other persons' point of view. To be heard and understood requires understanding that how people see your issue before trying to communicate with them.

Box 1.10 Why biodiversity communication needs to listen (Hesslink et al. 2007: 34)

"To listen" and "to respect the other person's point of view" are thus essential elements of biodiversity communication. From an ethical perspective, the willingness to listen is not only advisable for practical reasons (i.e. "If you don't listen to them, they won't listen to you"). It is primarily a matter of respecting others as autonomous individuals. If we impose orders and prescriptions on others that confine their freedom of action, we have to make sure that these constraints are justified. And communication is the way to find out if they actually can be justified. By exchanging arguments, participants of communication processes explain what they consider right and wrong and seek to convince others (Habermas 1984, 1987).

To listen and to respect th other person's point of view are essential elements of biodiversity communication.

1.3.2 What makes a good argument?

Ethics is not concerned with practical acceptance but with theoretical acceptability of arguments. A good argument is one that is convincing. Coherence and consistence are rational standards for argumentation. Nevertheless, bad arguments may be practically successful.

Biodiversity communication, thus, means the mutual exchange of arguments with regard to biodiversity. If we engage in biodiversity communication our aim is to convince people that measures in favour of biodiversity are justified. In order to be convincing, our arguments have to be "good". But what exactly does that mean?

Here we have to differentiate between two essentially different kinds of argumentation: strategic argumentation and ethical argumentation. Strategic communication aims at finding arguments that are factually capable of inducing a desired behaviour in others. It aims at practical success. Typically, this type of argumentation is used for selling products or services by marketing. Often, it first identifies one (or several) target groups and then identifies a particular language by which this target group can most likely be reached. Such customised communication is not the task of ethics. Ethicists don't ask if an argument is successful in real life, they ask if it is acceptable in principle for any reasonable person. They do not ask: "Will person X or group Y buy this argument?" but rather "Is the argument appropriate to the facts, values and norms involved?" Ethical inquiry is, thus, focused not on (factual) acceptance, but on (normative) acceptability. → Box 1.11 highlights the differences between the two kinds of argumentation.

What is a good argument?

1. Strategic perspective: "good" = effective
   - capable of inducing a desired behaviour
   - aiming at practical compliance
   - naming promising reasons
   - adjusted to the recipient
   - success-oriented

   → Persuasion

   → Acceptance
2. Ethical perspective: "good" = sound
   - capable of gaining approval with regards to content
   - aiming at theoretical consent
   - naming cogent reasons
   - adequate to the facts and values involved
   - object-oriented, consistent and coherent

   → Conviction

   → Acceptability

Box 1.11 What is a good argument?

Rational criteria for the assessment of arguments are consistence and coherence.

Coherence applies to the internal relation of the argument: Does the conclusion really follow from the premises or are there contradictions? For example: With regard to evolution, biologists often argue that humans are just a very recent product of evolution and only one species among many others, and this fact would not give them the right to exterminate all others. However, if we seriously maintained that humans are no different from all other species, we would have no reason to claim a particular responsibility of humans with regard to biodiversity. So the argument is self-defeating – the reason brought forth is not coherent with what it is aimed at.

Example

Consistence applies to the external relation of the argument used and the practice that is to be justified. Does the argument actually support the desired practice – or does it contradict it? For example, the often used "nature-knows-best" argument may justify a hands-off strategy. But measures of maintenance in a conservation area cannot be justified by it. Hence, "nature knows best" is a weak argument.

Example

Obviously, argumentative accuracy can contribute to discursive success. However, it would be naive to assume that strategically effective and philosophically sound arguments are identical. We all know that individual as well as political decisions are rarely based on reason only. Therefore, strategically effective and ethically sound arguments will differ in many cases. Marcus Düwell states in chapter 2: "*There are no reasons to assume that the good argument will be the successful argument*" (→ chapter 2).

Nevertheless a serious communication strategy requires critical evaluation of the arguments used in order to be reliable and legitimate. Unlike the marketing of commercial products and services, the communicative disclosure of the value of biodiversity does not serve partial interests, but rather interests of the general public. Therefore, the arguments used should be serious, not strategic. The relation of ethics and politics is treated by Marcus Düwell in more detail in the following chapter.

A serious communication strategy requires the critical evaluation of the arguments used in order to be reliable and legitimate.

Let us, again, illustrate the important difference between strategic and serious argumentation by an example: One can justify safety provisions for workers in terms of the interests of the employer or of the employees: Increased health and decreased illness of the employees mean more efficiency and fewer costs for the company – and hence they are in the employer's own interest. This argument is right and might also be the strategically most successful one. Nevertheless, most readers probably agree with us that the vital interests of the employees themselves are the real reason why measures to protect them have to be taken.

Example

In a similar vein, current argumentation in favour of biodiversity tends to "sell" biodiversity conservation as a matter of self-interest. It is "for our own sake" that we need to keep the diversity of life. Although such argumentation might be promising from a strategic perspective, an ethical inquiry has to ask if this is really the only or the most appropriate argument or whether the sake of other humans or the sake of non-human beings are better arguments. The triad of Prudence, Justice and the Good Life serves the aim to analyse and assess different kinds of argumentation. It is presented and elaborated in → chapter 4.

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2 MORALIZED POLITICS - POLITICISED MORALITY: ON THE ROLE OF ETHICS IN POLITICAL DEBATES ON SUSTAINABILITY AND GLOBAL CHANGE BY MARCUS DÜWELL

2.1 Introduction

This chapter is a contribution by Prof. Dr. Marcus Düwell. It is the elaboration of his oral presentation at the Dialogue Forum on Ethics in Stuttgart in March 2011. Marcus Düwell is professor of philosophical ethics at Utrecht University and research director of the philosophical department's Ethics Institute. He is also director of the Netherlands Research School for Practical Philosophy, director of the Utrecht Research Centre ZENO and Co-Director of the Focus Conflicts and Human Rights. His research concentrates on questions concerning the foundation of morality and on applied ethics in its relation to ethical theory and political philosophy.

In debates about sustainability and global change, politicians seek advice from academic experts. In addition to members of other disciplines, they consult ethicists or turn to ethics committees in their efforts to find political solutions for pressing problems. While it is fairly clear what politicians expect to gain from consulting economists, technologists and biologists – even if it is questionable whether such expectations are always realistic – what politicians hope to gain from involving ethicists in such issues is quite unclear: While some seem to expect a higher level of reflection on public debates, others seem hopeful that this will promote acceptance of political policies on the part of the general public or increase the probability of political consensus. Such diverse expectations can end in disappointment, however. If the participation of ethicists neither results in increasing public acceptance nor in facilitating political consensus, politicians may ask themselves what good it does to include ethics in political processes in the first place.

To avert such disappointment, this paper aims to provide critical self-reflection on the possible role of ethics in such processes. This endeavour presupposes some fundamental reflections on the relationship between morality and politics in the age of sustainability and global change. I will present my argument in three steps: *Firstly*, I will elucidate some challenges for morality which we find ourselves confronted with; *secondly*, I will discuss the relationship between politics and morality in modernity; *thirdly*, I will critically examine the expectations placed on ethics in this context and, *fourthly*, I will conclude with some constructive remarks concerning the possible contribution ethics can make in the context of political debates about sustainability.

2.2 Morality in times of global change

Climate change, scarcity of resources, population growth, endangered biodiversity – these few keywords point to an entire complex of challenges that politics will have to deal with in the years to come. The concept of economic growth will be under critical scrutiny; population growth will create an immense challenge for sustainable development; the limits of energy resources and the problem of environmentally motivated migration will lead to severe political conflicts. These are only some of the possible consequences of environmental change. Thus we are not only confronted with technical challenges but also with challenges to our understanding of basic concepts regarding the social and political world. It can no longer be taken for granted that the level of well-being to which inhabitants of the Western world have accustomed themselves can be maintained in the future. Furthermore, any possible political answer to such challenges presupposes a form of international political coordination stronger than any we have known in the past. Such coordination would require new and more powerful international institutions.

This requirement will challenge the role of national states and democratic institutions. Therefore it is very likely that the role of traditional political institutions like the nation state and their form of governance would have to change as well. But if new forms of governance are developed, it cannot be taken for granted that the new institutions which accompany them will be governed by ideas of democracy or the rule of law. It is completely unclear, for example, what democracy would look like on a global scale; even at the European level we get no clear picture of how democracy works. This means that new institutions may be necessary for an effective politics of climate change. But these institutions would have to be organized on an international, perhaps even global level if they are to succeed in handling problems of climate change. On such a global scale it is hard to see how democracy can be institutionalised and how effective legal control can work, for all of this is already difficult enough at the European level. Thus while it seems morally necessary to think about establishing new institutions to face the problems of climate change, at the same time the creation of such institutions may endanger democracy and the rule of law, which are the core elements of our current normative self-understanding.

Hence it is quite possible that our basic moral assumptions will be challenged as well. Our modern concepts of political morality focus on respect for the rights and dignity of human beings, protection of citizens' liberties and distributive justice. These concepts are premised on the assumption that we have moral responsibilities to the current generation. There is already great dispute as to what degree of responsibility we have towards people in poor countries; this question has been hotly and controversially debated in the past years. On the one hand it seems plausible to grant dignity and rights to all human beings and to recognize that we have obligations towards all human beings regardless of the country they live in, at least when it comes to their basic rights. This would be important in the context of sustainability because regulations on sustainability and protection of biodiversity are not only relevant with regard to future generations. The living conditions of those members of the current generations who inhabit poor countries depend to a high degree on conditions of global economy and technological developments, which are both affecting the way natural resources are used in poor countries. On the other hand, the interpretation of the human rights framework as a basis for global responsibility is questioned. Traditionally speaking, the human rights framework is highly dependent on the authority of the national states. Not only is the state seen as the first addressee of the obligation to protect and ensure human rights; the entire legal and political authority of the human rights framework is based on the fact that the states have committed themselves to ensure and enforce the protection of human rights. If this is true then the role of national states is quite fundamental for the human rights regime. A cosmopolitan interpretation is in danger

of overlooking the need for political institutions that can enforce such rights, however. A form of cosmopolitanism that views all human beings or the global community as responsible for the enforcement of human rights would have to develop a theory of institutions that are able to effectively ensure human rights. So far, such a theory is not readily available. Thus if we needed more international or even global cooperation to meet the challenges of global change while remaining committed to the ideas of rule of law and democracy, it would be necessary, in the first place, to discuss the possibility of creating a new institutional setting that would be effectively able to ensure all aspects of human rights in a globalised world in times of global change. I think that such a discussion would be normatively required if we take the moral authority of human rights seriously.

Even if we support the view that we have moral duties to promote global justice, the scope of direct moral obligations is presently seen as restricted to the current generation. Traditionally speaking, future generations have been regarded as morally relevant only insofar as the consequences of our actions would affect them personally. In this vein, people have considered themselves to be responsible for the living conditions of their children and grandchildren. But the development of new technologies and the effects of global change have the potential to effect all future generations. Therefore, the scope of moral responsibility is potentially unlimited with regard to the future. This insight raises completely new questions. It is hardly plausible to discuss such responsibilities in terms of distributive justice because the group in which distribution has to take place is potentially unlimited.

Furthermore, it is difficult to discuss global and long-term responsibilities within the framework of our established interpretation of liberal society. Traditional liberalism assumes that we are free to exercise our liberties as long as we do not infringe upon the liberties of others. This liberal concept is the foundation of modern institutions like democracy and the premise of human rights, which in principle regards human beings as equal and free. This liberal concept is challenged by the aforementioned problems for several reasons, however. *First of all*, the extent to which new developments are causing infringement of our liberty is unclear; in any case, the long-term effects can hardly be anticipated. *Secondly*, it is quite likely that all changes in the direction of more sustainable development will imply severe curtailment of individual freedom to ensure equivalent living conditions for the future. *Thirdly*, application of the liberal framework, in particular the human rights framework, to as yet unborn generations lies beyond the scope of its traditional application. This problem has already been discussed in philosophy for quite some time: How can we think that future generations have rights and that we have corresponding duties towards them if they a) do not exist and b) their existence depends on decisions we are making?

This argument was prominently formulated by Deryck Parfit, who first discussed it in the context of abortion. He asked how it was possible to formulate a right of a yet- unborn if the right-bearer did not exist yet and actually never would should the pregnant woman opt for an abortion. This fundamental problem was extended to the debate about possible rights of future generations: How can they have rights that obligate us today if they don't exist and their existence depends on our decisions (Parfit 1984, Gosseries & Meyer 2009)? This problem has raised a lot of debate. A tentative answer might be: while Parfit addresses the rights of concrete individuals to exist as individuals, things may be different with regard to future generations. *First of all*, the rights in question are not rights of concrete individuals but rather generic rights. Generic rights are rights that are applicable to all right-bearers. To put it more concretely, all potential human beings will – as far as we can tell – have basic needs like water, fresh air, food, fibre etc. The fulfilment of these needs is a right that is independent of the specific rights of

individuals. Therefore, we may be morally obligated to future generations even though we don't know the individuals who bear this right. *Secondly*, the strongest interpretation of the rights of future generations is as follows: *they are future rights of future people*. This means future generations do not have rights at this very moment, but for the simple reason that they don't exist yet. But they will have rights as soon as they do exist. Talking about rights of future generations merely requires assuming that we have corresponding obligations with regard to the future rights of future people (see Unnerstall 1999).

Supposing future generations do indeed have rights, the question is still whether we have reason to give equal weight to their rights. Would we be obligated to take their interests and those of the contemporary generation into account in equal measure? That would be difficult because we lack reliable knowledge about the effects of our actions on future people. It would be reasonable to ask if we are really obligated to severely curtail the rights of contemporaries in order to avoid consequences for future people that we cannot foresee in detail.
Assuming future generations have rights, we would also have to think about adequate representation in democratic institutions. If we have an obligation towards them, it would be problematic to view political institutions as solely representing the interests of the current generation. But if we tried to include future generations systematically into the scope of political representation that would probably change the concept of politics quite drastically – if this were possible at all. Perhaps it would be the end of democracy as we know it.

Due to the limited scope of this chapter, I can only make brief mention of these problems here and must forego discussing them in more detail. Nevertheless, I hope to have shown that the inclusion of future generations into the scope of obligations that we have in the normative framework of human rights raises fundamental questions concerning the interpretation and justification of the entire human rights framework as well as the self-understanding of modern societies. But precisely these questions need to be discussed if we are talking about sustainability. It is simply not possible to assume that the human rights framework is only valid for the current generation and the normative framework of sustainability takes over wherever future generations are at stake. Since both frameworks aim at guiding our actions, we would have to understand the relationship between the twoh. And this is a task which entails understanding our basic moral convictions – this being the central task of ethics. It is therefore only logical that politics strives to include ethics in political processes.

2.3 Morality and politics in modernity

The discussion so far, as to whether or not we have moral obligations towards future generations and whether or not we have moral obligations in a global perspective, already involves some presuppositions with regard to the relationship between morality and politics. If we view ourselves as being obligated to support sustainable development and if we see unlimited use of natural resources as morally wrong, we already assume that it makes sense (or is even required) to discuss political questions in moral terms. Of course we would have good political reason to discuss sustainability at the point in time when lack of natural resources starts affecting our own living conditions or the stability of the political system. But to speak about moral obligations with regard to the global poor or to future generations presupposes that politics has some kind of moral foundation in general terms. This assumption is highly contested, however – in modernity in general and in the past few decades in particular. What is this conflict all about?

On the one hand, we see a growing tendency to regulate politics in moral terms. An indication of this is the importance placed on the human rights regime after World War II. The fact that modern political institutions are based on the idea of equal dignity and rights of all human beings points to some basic underlying moral idea (see Beitz 2009). Of course the legal role of human rights and human dignity is based on their role in international treaties, especially the Universal Declaration of Human Rights, and on their role in some national constitutions. But it is hard to understand this role without assuming that human rights have this role because of their fundamental moral importance. After World War II, the establishment of a new normative foundation for political institutions was the result of the insight that totalitarianism, the war and the Shoah were deeply wrong in moral terms and that political institutions would have to ensure that this could never happen again (Morsink 1999, Glendon 2002). This basically means that the commitment to human rights gives a moral foundation to politics.

Of course politics is still unjust, biased, based on the interests of particular groups etc., but the regulatory framework of human rights provides us with a normative basis to criticise such phenomena in politics. Morality has become part of the legitimation of politics. This tendency towards moralisation is especially present in debates about sustainability and intergenerational justice. Since we can do something for future generations but they can do nothing for us, claims for sustainable politics can only be justified in direct moral terms. There is no possibility to reconcile our moral obligations towards future people with our own self-interest the way it is possible in other areas of politics. This means that the entire discourse about sustainability and intergenerational justice can only be understood as being based on certain moral commitments. Hence, the whole debate presupposes an understanding of politics that justifies itself in moral terms.

While we observe this growing moralisation of politics, we find, on the other hand, a kind of self-interpretation of politics in modernity that regards politics as an autonomous sphere, independent from morality. This understanding of politics emerged in early modernity when the political sphere tried to free itself from the priority of religion. Since the Renaissance, the independence of politics has constituted the articulation of a new self-understanding of human beings. Furthermore, in the post-Reformation century, finding a justification for politics that was not based on religion was a political necessity because the world of religion was deeply divided. Machiavelli and Hobbes are important representatives of this understanding of politics. Whether these authors had a relationship to morality is deeply contested and this question has triggered fundamental debate that cannot be discussed here. But it is important to recognize that their putatively non-moral understanding of politics is attracting many contemporary political philosophers. The reason for this is not the immorality of modern philosophers. These philosophers believe, rather, that there is always a plurality of moral convictions and that politics has to

deal with this situation. The suspicion is that moralisation of politics deeply endangers the whole idea of politics (e.g. Waldron 2001).

It is the very nature of politics to be confronted with conflicting interests and power struggles. Politics has to be understood as an effort to maintain stable power relations and as a struggle for recognition. To assume a morality outside of this political struggle would undermine the whole idea of politics and have devastating consequences for political institutions. If one accepts a non-moral understanding of politics, it is much less likely that sustainability in the sense of global and intergenerational justice can play a central political role at all. To be sure, as regards the stability of political structures in a globalised world one might have reason to take the interests of people in poor countries into account. Citizens could possibly have a self-understanding that included responsibility for future generations as well. In that case, of course, they could freely agree to limiting the exercise of their freedom for the benefit of future generations. But in such a perspective the commitment to sustainable politics would depend on the contingent fact that people want to take over this responsibility. If they don't want to do this, they would have done nothing wrong. Viewing both care for future generations and care for poor people in distant parts of the world as obligations not only presupposes certain moral commitments but also presents political institutions as bound by such commitments.

This understanding of politics is not uncontested. Every discourse about sustainability should be aware of the fact that it is not neutral with regard to the relationship between morality and politics. As concerns the role of ethics in political discourse, the relationship between morality and politics which is presupposed is of fundamental importance, of course. If we understand ethics as a systematic reflection on morality, it seems necessary to presuppose that morality has some kind of relevance for politics. Whenever ethical experts or ethical institutions become part of the political process one should be aware of this. Consequently, the incorporation of ethical reflection into the political process necessarily calls for reflection on our basic understanding of politics. Otherwise it is hardly possible to explicate the role of ethics in the political process.

2.4 Political expectations towards ethics – a critical evaluation

To set the framework, let's have a look at the way ethical consultancy is actually integrated into the political process. In Germany, for example, Angela Merkel established an "Ethics Commission for a Safe Energy Supply" (2011)), whose purpose was to provide the government with advice regarding nuclear power. This is an example of an ethics committee that is established in a particular political situation and assigned the concrete task of providing advice after a very short period of deliberation. Other ethics committees (like the European Group on Ethics, the ethics committee of the European Commission) are more permanent committees with a broad advisory task. Yet other commissions have been installed by other states, a church, the association of German physicians, the Olympic committee, etc. These commissions vary significantly in regard to the scope of their advisory task, their composition, whether they are permanent or not, whether they may give advice on topics they choose to deliberate on or only on demand, whether they are entitled to dissenting votes or whether they have to find a consensus, etc.

What is particularly interesting is the composition of such commissions; this basically involves either a stakeholder model or an expert model. Committees based on the stakeholder model have the task of representing groups (labour unions, churches, affected groups etc.) that are important for the political process. Typically, such committees would be instructed to investigate possibilities for a political consensus with regard to a contested topic. The expert model aims at bringing together scientific experts from various fields. The task of such commissions is to gather the academic knowledge relevant for a specific topic. Ideally, such a commission would make this knowledge available for the political process. Here it would be important to present the academic knowledge as comprehensively as possible and include any sources of disagreement among scientists.

There are, of course, all kinds of intermediate models. One problem can be that the relationship between the composition and task of a commission remains unclear. For example, in some ethics commissions we find a stakeholder composition with strong scientific statements being made at the same time. In other cases, an expert commission might aim at a consensus which would, in a democracy, require participation of relevant societal groups that are not represented in the commission. It is often unclear how different experts understand their role in a commission. For example, if biological experts do not only present their biological knowledge but also hold a moral position, e.g. about the value of a specific technology, it is unclear whether the expert is defending this position as a scientist or as a citizen. To engage in clear reflection on the political role of ethics commissions, it would be important to understand how the specific composition of the commission in question is related to its task. Very often, concerned citizens get the impression that the installation of an ethics committee was merely a public relations measure or a way of ensuring political acceptance of planned policies. If this were the case, it would undermine the authority of the participating scientists as well the citizens' confidence in political institutions because such an analysis would confirm the suspicion that politicians consider themselves too weak to make important decisions. In regard to Merkel's commission on nuclear energy politics one could get the impression that the Chancellor wanted to rely on the authority of scientists and important stakeholders in order to defend the change in her nuclear energy policy after the earthquake in Japan. If ethics is exploited for political purposes, this affects the authority of ethical experts and institutions. Why should people take academic experts seriously if they assume that these experts are merely functioning as instruments of the government?

There is an even farther-reaching lack of clarity in regard to ethics in political contexts. First of all, the installation of ethics committees presupposes that the task of ethics is to provide valid argumentations and justifications for moral positions. This in turn presupposes, at the very least, that there is some-

thing to be argued for or against. This view includes specific commitments regarding the nature of ethics and the role of argumentation within ethics that are not uncontested. Only if we can gain some insight into what is morally right or morally good and if argumentation is the right way to attain this insight does it make sense to install ethics commissions and assign them the task of exercising ethical argumentation. Without this presupposition, a commission without power but with the task of examining arguments wouldn't make sense. This assumption would not only hold true for an understanding of ethics committees based on the expert model but also for those which follow the stakeholder model. If stakeholders have to sort out the possibilities for political consensus in an ethics commission they do not do so on the basis of political power but rather on that of deliberation. In the deliberation process, the argumentative force would be a necessary presupposition. Politicians should be aware that in installing ethics commissions/ethics committees they subscribe implicitly to such an assumption.

If a commission operates on the assumption that argumentation can provide moral insights, what kinds of expectations are justified from the perspective of politics? The expectation that the probability of finding a political consensus can be increased or public acceptance of planned policies can be boosted does not seem to be very realistic. As it is the task of ethics to examine arguments critically, it can be rather destructive with regard to previously existing, hitherto unquestioned agreements. If most of us share some moral convictions in everyday life the ethicist asks why we hold those convictions and whether we have good reason to do so. Hence, the ethicist does not increase the probability that we will agree on one moral conviction. Rather, he increases the likelihood that we will understand why we hold our conviction and maybe learn that different people hold a shared conviction for different reasons.

But why do we want to engage in ethical reflection? Is it not quite a useless exercise? Or a purely academic one? Of course in philosophy courses people have to reflect on their reasons for holding the opinion that it is morally problematic to kill people randomly. Ordinary people on the street just know that they shouldn't do it. So why should politics bother with such sophisticated pasttimes? First of all, it all has to do with the nature of moral convictions, with the fact that we hold such convictions not merely as a matter of fact, but that we have reasons to believe that the convictions we hold are good convictions. To have moral convictions not only in the sense of cultural prejudices presupposes that we are able to reflect on the validity of such convictions. Moral convictions are not a 'given' like the laws of nature which we don't evaluate. We don't ask whether the laws of gravity are 'good'. We just know that we can explain phenomena in the real world by using the concept of gravity. Some prejudices are also 'given,' but in another sense. For example, a person born into a traditional religious family is accustomed to certain convictions with regard to behaviour, existence of god, sin, sexuality etc. However, in the course of growing up we learn to assess such background assumptions and to develop our own attitude towards them. We assume that we should only commit ourselves to convictions which we have reason to believe are invested with some kind of authority; in any case it is the basic assumption of modern societies that the authority of moral convictions should be able to bear up against critical examination. One should keep in mind that many kinds of moral convictions have been held before which we consider to be morally problematic today, e.g. moral disapproval of homosexual behaviour or the moral conviction that slaves should be treated differently than free human beings.

The necessity to understand our reasons for ascribing moral authority to certain moral convictions is even more urgent in cases where it is not obvious what follows from a moral conviction with regard to cases that are not regulated in traditional moral frameworks. There is no tradition that could tell us something about moral obligations concerning biodiversity or long-term duties towards future generations. In order to understand how such duties relate to our other moral convictions and determine whether holding these convictions is justified, we have reason to reflect on them. This is not an academic exercise but a question of reflected self-understanding. To what extent this form of reflection will result in shared convictions is another question. We have no reason to assume that the good arguments will be the successful arguments. As long as human beings are not only driven by rationality but also by forces of other kinds and as long as politics is a political struggle involving all kinds of interests and power relations it is clear that there will be tensions between success in pushing through political agendas and gaining insight into good action. Such insight does not make ethical deliberation superfluous. On the contrary, it is because the political world is as it is that we are in need of moral deliberation. But we shouldn't expect political success or political consensus from the institutionalisation of ethics.

2.5 Ethics and our practical self-understanding in times of global change

I have aimed at showing that ethics has the task of helping us develop a more reflected self-understanding and that it would be a misconception to neglect the political character of environmental conflicts in the course of ethical deliberation. One might wonder why this need for deeper reflection on our practical self-understanding is so urgent and pressing with regard to environmental conflicts. At the beginning of this paper I tried to show the dimensions of the challenges we are facing with regard to current ecological changes. The scope of responsibilities is extended in space as well as in time. Talking about sustainability leads to a global perspective which potentially draws the poor in distant parts of the world as well as future generations into the scope of our moral responsibility. This scope of responsibility raises the question as to what kinds of institutions are capable of and appropriate for taking this responsibility. Pursuing this question may result in quite different forms of political participation and social relationships. It is quite likely that it will result in development of other convictions concerning what constitutes morally acceptable exercise of political and personal liberties.

This brief sketch shows that environmental conflicts will affect all dimensions of our social, political, economic and personal life. The realization that we need ethical reflection here has primarily to do with the impact that environmental changes will have. So far contemporary societies have not recognised the extent to which our practical self-understanding will be affected. There is hardly any area of action that will be not altered by the current ecological challenges. It is quite difficult to imagine that human beings might feel responsible for the future of mankind to an unlimited extent. The awareness of such a responsibility would probably exceed the capacities of any human being. But on the other hand, commitment to sustainability is already part of the reflected self-understanding of contemporary societies. If my analysis is correct then this commitment to sustainability has potential for creating certain fundamental tensions vis-a-vis other moral commitments which we hold in regard to respect for the individual, democracy and human rights in general. These potentially far-reaching tensions within the normative self-understanding of contemporary societies are the reason why ethical reflection is needed in this context. Such ethical reflection cannot be expected to ensure eager acceptance of political processes or the establishment of a political consensus. But for both tasks, political institutions are far better prepared than ethicists are. What contemporary societies need much more urgently are the ability to openly articulate potential tensions and the intellectual resources required to conceptualise alternative political and social institutions to meet environmental challenges. Global change is not a challenge for the natural sciences and technology alone; it is creating a "perfect moral storm" (Gardiner 2011) and we need the reflective capacity to react to it in a way that is morally responsible. Here would be a role for ethics to play as an institution that would take the moral challenges seriously.

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3 ECONOMIC EVALUATION AND ETHICS: THE TEEB STUDY AND ITS RESONANCE IN SOCIETY AND POLITICS BY BERND HANSJÜRGENS

3.1 Introduction: the TEEB Study

This chapter is a contribution by Prof. Dr. Bernd Hansjürgens. It is the elaboration of his presentation at the Dialogue Forum on Ethics in Stuttgart in March 2011. Bernd Hansjürgens is spokesman of the Helmholtz Association Programm Terrestrial Environment and head of the Department of Economics at the Helmholtz Center for Environmental Research (UFZ) in Leipzig. His areas of expertise are environmental economics, new institutional economics, and public finance. He was involved in the international TEEB study and is head of the national follow-up project Natural Capital Germany.

The TEEB Study – The Economics of Ecosystems and Biodiversity – was an international study whose essential aim was to bring to view the economic value of ecosystems and biodiversity. The study evolved following the so-called Stern Report (Stern 2007). This report had a great influence on climate policies in that it weighed the costs and benefits of climate policy-making. The Stern Report succeeded in proving quite impressively that it was worthwhile to invest in climate protection because considerable economic costs – in the sense of avoidable environmental damage – could be saved in this way. The goal of the TEEB Study was quite similar in that it initiated a process of awareness raising by emphasizing the economic value of ecosystems and biodiversity and thus making clear what value biodiversity and ecosystems have in terms of the benefits they bring for human beings. In this way a central threat to human life, namely the accelerated loss of biodiversity, was to be confronted.

In pursuing this aim, the TEEB Study consciously chose a broad approach for determining values which extended far beyond any narrow monetarization of environmental effects, not limiting considerations to the economic realm. In this way such "soft" factors as cultural services, for example, were to be evaluated and conveyed, albeit not necessarily in monetary form. Moreover, the effects of the dwindling of biodiversity were not to be analyzed in terms of the economic realm alone but rather from a perspective encompassing the entire realm of human welfare. All in all, the objective consisted in improving ways of reaching a wide range of protagonists from the political, administrative and economic arena as well as individual consumers who make decisions on biodiversity and ecosystems, their preservation and sustainable use or destruction.

Despite its broad perspective, the TEEB Study is an economically motivated and informed study on the value of ecosystems and biodiversity. Thus from an ethical perspective one can ask oneself which concepts of the value of ecosystems and biodiversity underlie the TEEB Study. What is and is not assessed by an economic evaluation? What connection exists between economic evaluation and ethics? Do these two perspectives oppose each other or are they reconcilable? What is the scope of the respective approaches?

In regard to TEEB one can also ask whether such an economically defined approach has elicited a strong resonance in society and politics. Was (and is) the approach of expressing and conveying the value of nature in economic terms promising? Was it possible to reach new addressees in addition to the previously established ones in the area of nature conservation? In raising such questions, important points of reference were to be obtained which would allow one to draw conclusions on a strategy for successfully communicating the value of nature.

These two questions – the relationship between economic and ethical evaluation, and the resonance elicited by the economic evaluative approach (within the framework of TEEB) in society and politics – are to be addressed in this chapter. The procedure will be as follows: to begin with, the background, objective and procedure of the TEEB Study will be briefly elucidated (→ section 3.2). Afterwards

there will be an investigation of the understanding of values which underlies the TEEB Study, with a special focus being placed on how economic and ethical values relate to each other (→ section 3.3). Then an assessment will be made regarding the influence which the TEEB Study has had on society and politics (to date; → section 3.4). How can this influence be measured and what indications can be found for an exertion of influence during the relatively short period of time which has passed since the TEEB Reports were published? The article will conclude with several summarizing remarks (→ section 3.5).

3.2 The TEEB Study: background, objective, procedure

The TEEB Study was initiated in 2007 with the objective of improving means of assessing the economic values deriving from the benefits of nature, determining the economic impact of damages to ecosystems and thus also quantifying the costs of non-action. As previously mentioned, this study was designed analogous to the Stern Report on climate policy-making. Worldwide, some 500 scientists and experts were involved in the TEEB Study. In conducting this study the aim was not to generate new research results but rather to compile and process already existing approaches, examples and experiences to achieve a successful valorization of nature and biodiversity. The study was financed by the United Nations (UNEP), the EU and several states (including Germany). The scientific coordination laid in the hands of the Helmholtz-Centre for Environmental Research – UFZ – in Leipzig.

The overarching objective of the TEEB Study was to underline the global economic significance of ecosystems and biodiversity, to illustrate connections between ethical and ecological lines of argumentation and to show ways in which the value of ecosystems and biodiversity can be integrated better into private and public decision-making processes. A sub-objective was to increase acceptance of nature conservation policies in administrations, the political arena, the economy and society by putting forth economic arguments. A further sub-objective consisted in demonstrating exemplarily how successful valorization can contribute to an increase in environmental protection, nature conservation and preservation of biodiversity while at the same time safeguarding human well-being in the sense of the Millennium Ecosystem Assessment (MA 2005). As the leader of the study, Pavan Sukhdev, said:

> *"It can be said that we are trying to navigate uncharted and turbulent waters today with an old and defective economic compass. And this is not just a national accounting problem – it is a problem of metrics which permeates all layers of society, from government to business to the individual, and affects our ability to forge a sustainable economy in harmony with nature" (Pavan Sukhdev in TEEB 2008: 4).*

Although numerous scientists from all over the world took part in the study to compile the current state of knowledge, the TEEB Study is and always has been more than a mere scientific process; first and foremost it has fulfilled a political function. It aims to show how we can take better consideration of the value of ecosystems and biodiversity in the decisions we make and the decision-making processes we engage in. One primary goal of the study was and is to make policy-makers and other societal protagonists aware of the fact that a large number of approaches and instruments already exist which can be used to take the value of ecosystems and biodiversity into account in societal decision-making processes. Thus the study constitutes a heuristics for thought processes and courses of action designed to recognize what ecosystems and biodiversity actually are, namely the basis for economic activities, societal welfare and human well-being.

The success of TEEB lies in three key elements:

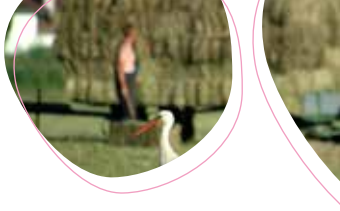
1. The TEEB message: TEEB took a broad approach and attempted to explore the value of biodiversity and the benefit of ecosystems on several different levels. This included a comprehensive sectoral perspective (various economic sectors), various spatio-geographical scales (extending from the global to the national, the regional and the local levels), a broad understanding of values (apart from economic values and monetary parameters ecological and socio-cultural values in the widest sense of the word) as well as a broad understanding of "valorization" which includes recognizing various kinds of values, demonstrating and quantifying such values and integrating them into environmental policy instruments and markets ("capturing" them). TEEB revealed a reflecting procedure which involved propagating economic approaches carefully and with sound

judgment while always keeping the respective limits of an economic perspective in mind (Ring et al. 2010). A central feature of TEEB was that it did not focus on biodiversity and nature conservation exclusively but endeavored to penetrate all societal sectors and realms, which is to say, in particular those areas which are remote to nature conservation and biodiversity ("mainstreaming").

2. TEEB addressee orientation: TEEB specifically oriented itself to selected groups of addressees for whom specific reports tailored to the addressees in question were drawn up. These were international and domestic policy-makers, regional policy-makers and associations, entrepreneurs, citizens, and members of the science community. For these target groups specific, distinctive lines of argumentation were developed concerning the question as to how the economic approach could be employed argumentatively in the interest of protecting biodiversity. The goal was to promote what was already quite a broad interest in biodiversity and ecosystems on the part of many protagonists and to arouse interest on the part of new protagonists who had not yet been reached without putting off established protagonists from nature conservation and biodiversity circles or evoking opposition among them.

3. TEEB products: The specific TEEB messages and addressees called for specific TEEB products. Therefore the TEEB Study comprises several reports (for which reason one should actually speak of TEEB studies). The reports had to be aligned to the respective addressees in terms of thematic orientation, structure and formulation. In particular, this resulted in the avoidance of a narrow "typical" nature conservation perspective because this can lead to dismissal and rejection on the part of non-conservationists. An open, transparent procedure for preparing the products which allowed for protagonists and experts to engage with it in various forms was thus crucial for the success of this process. In part, such an approach with this kind of addressee-related preparation called for considerable special efforts to be made to adjust the form and content of the TEEB reports accordingly. In keeping with this, four TEEB reports were drawn up: a report for the sciences (TEEB 2010a) which addressed central scientific issues of environmental protection and sustainable utilization of biodiversity and ecosystems, a second report for international and domestic policy-makers (TEEB 2011), a TEEB report for regional and local policy-makers (TEEB 2010b) and a TEEB report for business (TEEB 2010c). In other words, the information on the economy of ecosystems and biodiversity is presented in different ways with different focuses so as to find the right form of communication for potential users and to promote rapid implementation of the results accordingly. Another important element in this connection was professional preparation and use of additional communication products; in addition to press releases and announcements of events these included in particular an additional website called teeb4me.com for citizens and consumers with social network approaches and a TEEB short film competition.

All TEEB products are available at *www.teebweb.org*.



3.3 The economic approach to evaluation of nature

This section raises the question as to which types of values underlie the nature of the TEEB Study and how these correlate with ethical conceptions of values. To begin with, one should ask which aspects of values can be assessed by an economically oriented approach and which ones cannot (→ paragraphs 3.3.1 and 3.3.2). To do so, some fundamental elucidations on the scope and limitations of economic evaluation must be made. Afterwards the question as to which ethical aspects are covered by the economic approach is raised (→ paragraph 3.3.3). There follows, in conclusion, an examination of the degree to which TEEB seizes upon these economic foundations, the degree to which the study restricts itself to economic approaches and where it extends beyond them in some areas (→ paragraph 3.3.4).

3.3.1 Which values are incorporated?

Human beings have values or ascribe values to certain objects. All explicit or implicit value ascriptions reflect the degree to which human beings concern themselves with an object or take interest in it. Thus no single value of nature exists. Human beings have various material, moral, spiritual, aesthetic and other interests which shape their thoughts and attitudes towards nature. Moreover one must note that academics, for example, have developed differing value judgments in regard to nature depending on their education and field of study, i.e., depending on whether they are biologists, hydrologists, engineers, jurists, economists, ethicists, etc. .They associate various aspects with nature which result from the differing approaches taken by their disciplines (Rink, Wächter 2004; EPA 2009: 13; Brondizio & Gatzweiler 2010). Ultimately the value assigned to nature depends in particular on the way in which it is used.

If one approaches the concept of "value" from an economic perspective it is often equated with the market exchange value, i.e., its price. Thus a good with a high (or low) exchange value has a high (or low) price. The following passage from the magazine "Water Policy" serves as an example of this:

> *"Water has economic value only when its supply is scarce relative to demand. Whenever water is available in unlimited supply, it is free in the economic sense. Scarce water takes an economic value because many users compete for its use. In a market system, economic values of water, defined by its prices, serve as a guide to allocate water among alternative uses, potentially directing water and its complementary resources into uses in which they yield the greatest economic return." (Ward and Michelsen 2001).*

According to this notion, everything which is not traded on markets (thus also environmental goods or public goods in general) has no economic value. If this were true, the concept of economic value would indeed be very narrowly defined and would stand in opposition to what human beings generally consider to be valuable.

Yet this perspective is too short-sighted and it does not properly reflect a real understanding of current economics. Adam Smith already made this clear in his book entitled "The Wealth of Nations" over 200 years ago. He points out that one must distinguish between 'value in use' and 'value in exchange'; he illustrates this using two goods, water and diamonds, as examples:

eXample

> *"The word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called 'value in use,' the other, 'value in exchange.' The things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water; but it will purchase scarce anything; scarce anything can be in exchange for*

> *it. A diamond, on the contrary, has scarce any value in use; but a great quantity of other goods may frequently be had in exchange for it" (Smith 1976, Book I, Chapter IV; quoted in Hanemann 2005).*

Water has a low price (exchange value) but as a scarce resource it has a high use value, whereas diamonds have a very high price but a low use value. Apparently the (economic) value of water as a good (its use value) deviates from its exchange value (price); it is not identical to the price – there is no doubt about this. According to this, many goods which are not traded on markets and thus have no prices can nevertheless have an economic value.

But what is assessed by the "value" of nature, what is contained in this value – and what does it not comprise? Adam Smith focused on the 'use in value,' i.e. the value of use or the user value. For him – as for most economists – the use which a good has for the individual or a society is the decisive parameter. Thus the value of nature orients itself to the use which it has for the respective application. Without such a use there is no (economic) value. This is the anthropocentric core of the economic approach.

The basis for assessment of environment-related values in economics – using the considerations formulated above as a point of departure – is the concept of total economic value (Pearce and Turner 1990). This is a conceptual construction which attempts to assess all types of values ascribed to the environment economically, i.e. all benefits and detriments which are associated with it for human beings. The total economic value is divided up into various individual values which are represented in → Figure 3.1. These should be discussed briefly at this point.

The concept of total economic value starts out by distinguishing between *use-dependent* and *use-independent values*. Use-dependent values are connected to the use of natural resources – they are customarily subdivided into three value categories:

- **Direct use values**. These are derived from the economic use value and the symbolic value. The economic use value is designated by the use of nature and its ecological benefits for consumer and production purposes. If, for example, water resources are exploited for drinking water or production processes this is a case of such a direct use value. Enjoyment of a beautiful landscape is also conceivable as constituting a direct consumer value. Symbolic value is generated when religious or spiritual values are ascribed to nature on the part of individuals.

- **Indirect use values**. Functional value, which represents the indirect use value and thus the second value category of use-dependent values, reflects ecological benefits of nature. This comprises, for example, the value of a meadow used as a retention area for toxins or as a flooding area for high water.

- **Option value.** This constitutes a kind of insurance premium for future, potential use of direct and indirect values of nature. In a broad understanding, the option value can also be ascribed to use-independent values, however. For this reason it stands between the use-dependent and the use-independent values.

Use-independent values do not evolve through direct use of natural resources; their use for human beings is generated without them being used by such human beings personally. Here three types of use must also be distinguished:

- **Existence value.** The knowledge of the existence of this natural good alone ensures a higher degree of satisfaction, generating in this way a positive value.

- **Bequest value.** This value evolves from the desire to give future generations the chance to make the same use of nature which is available to the current generation ("intergenerational justice").

- **Altruistic value.** This value evolves when human beings perceive accessibility to environmental resources by others as constituting a value ("intragenerational justice").

Thus the concept of total economic value is considerably broader and it clearly includes more values than non-economists are often likely to believe. The values extend far beyond a narrow notion of use in the sense of direct advantage for those affected or use in the economic realm alone. Thus in a special advisory study entitled "Environment and Ethics" which was issued by the German Scientific Council on Global Environmental Change (WBGU), the study speaks of the "moderate anthropocentrism" which underlies this perspective (WBGU 1999: 32).

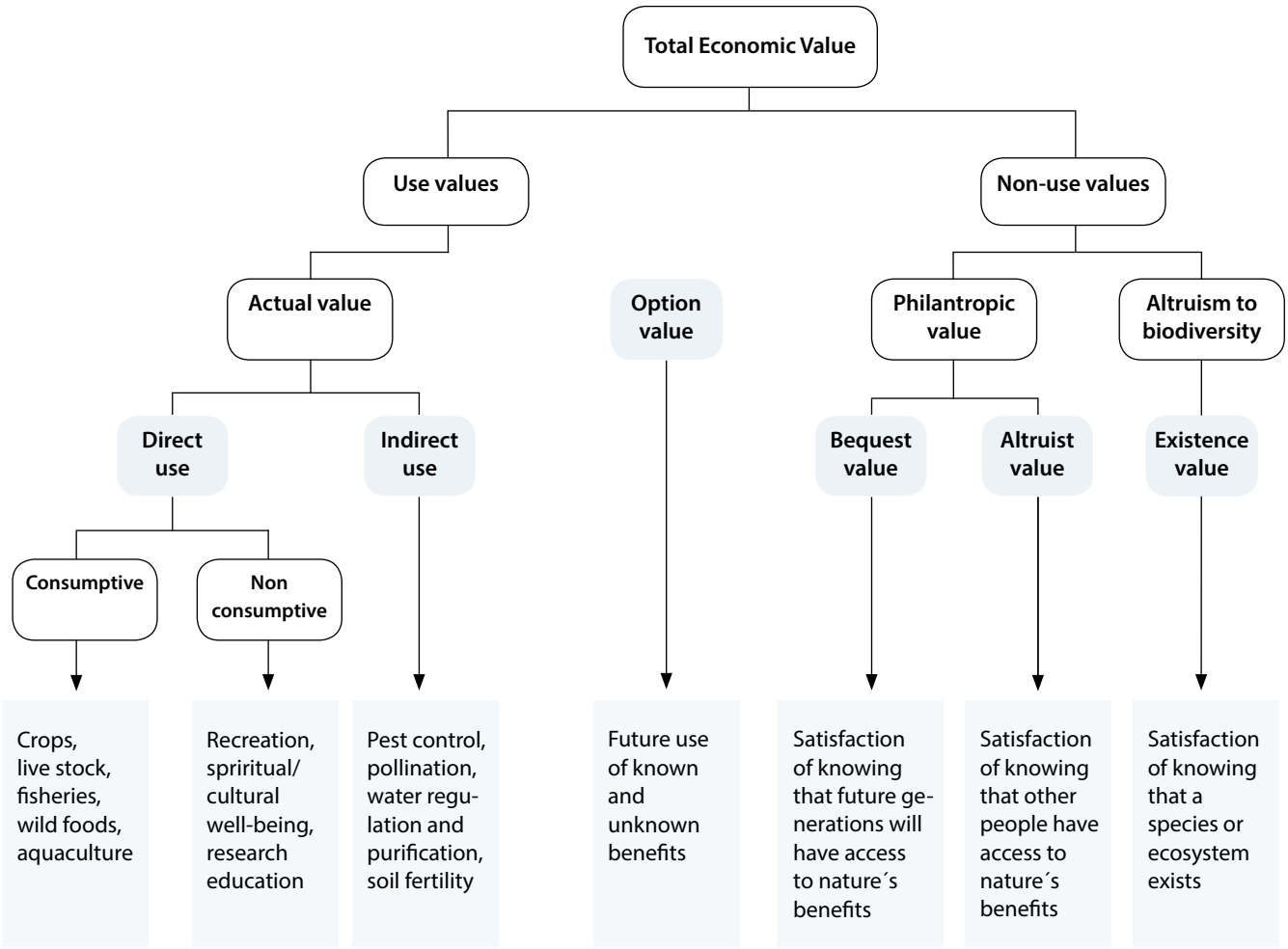


Figure 3.1 The concept of total economic value (TEEB 2010 a:195)

3.3.2 Which values are not assessed?

To address the question as to which values of nature are not assessed by the economic approach it is helpful to start by distinguishing between nature as a means (or instrument) and nature as a goal. These considerations already point to ethical aspects which will be taken up in → paragraph 3.3.3.

- Viewing nature as a means points to the aspect that nature fulfills an instrumental function; it serves (through direct or indirect utilization) to fulfill certain goals, with satisfaction of human needs most often being viewed as such a final goal. In the area of ecosystems and biodiversity this utilization is aptly described by the concept of ecosystem services (MA 2005; TEEB 2010a; 2011). According to this understanding (and only insofar), nature has a value because it provides certain services for human beings. In keeping with the Millennium Ecosystem Assessment (MA 2005), such services might entail providing benefits (for example fish as a foodstuff, hydropower), constitute regulatory services (for example flood control), cultural services (for example recreation, landscape aesthetics, environmental education) and supportive services (for example nutrient cycles, photosynthesis, soil development). One can recognize that the concept of total economic value is based on this perspective of "nature as a means."

- Viewing nature as a final goal means that natural resources should be protected as such, irrespective of their contribution to other goals. Nature has a value in itself. This may be founded on philosophical considerations or spiritual experiences, for example. Sometimes the term "intrinsic value" is used in this context, as opposed to the aforesaid instrumental values which can also be referred to as "extrinsic" (cf. for instance Justus et al. 2008, and in regard to water as a resource Rogers et al. 1998; Rogers et al. 2002; Young 2005). Other commonly used terms are "anthropocentric" and "bio- or ecocentric" for distinguishing between these two different views of nature (cf. for example WBGU 1999; Eser et al. 2011). The anthropocentric view is based on the preferences of the individual in regard to natural resources; thus the evaluation approach is an economic one (oriented to preferences), whereas the bio- or ecocentric view foregrounds certain biological, biophysical or even energetic aspects (EPA 2009: 13).

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We can ascertain that whenever it is a matter of viewing nature as a final goal, of seeing it as possessing an intrinsic value, certain values will not be embraced by the economic approach. In order to illuminate this area more clearly it is necessary to now distinguish between so-called primary and secondary values of nature.

There are ecosystem services which promote the development and preservation of an ecosystem. The stabilization and "health" of this ecosystem through proper functioning of the ecosystem structures and processes plays a central role here. Whatever contributes to this is designated as a primary value. In contrast, the aforementioned ecosystem services (which is to say, the direct and indirect services to human beings) are viewed as secondary values since in this case values are generated which are exported to other ecosystems and society.

The primary values stand in a complementary relationship; thus they are for the most part not substitutable (a certain species requires sufficient oxygen or nitrogen; one species is dependent on another because food chains exist, etc.). Only if all elements exist to a sufficient degree and the biotic and abiotic prerequisites are given in adequate quality and quantity can the ecosystem function. Moreover, these are the prerequisite for the emergence of secondary values since they guarantee the functional reliability and the self-organization of the ecological systems, and only in this way can ecological services be furnished. To be sure, these primary values are not ascertainable via individual preferences of hu-

man beings and therefore they cannot be assessed monetarily on the basis of certain economic methods of evaluation.

Thus on the one hand, the evolving total value of nature constitutes no primary values and on the other it includes only that part of secondary values which provide utility and benefit for society. Thus the secondary values of nature in their entirety are larger than those values included in the total economic value, and the total value of nature – including its primary values – is greater once again (cf. Gren 1994, pg. 58; cf. Meyerhoff 1999, pg. 30 f.). → Figure 3.2 gives an impression of this.

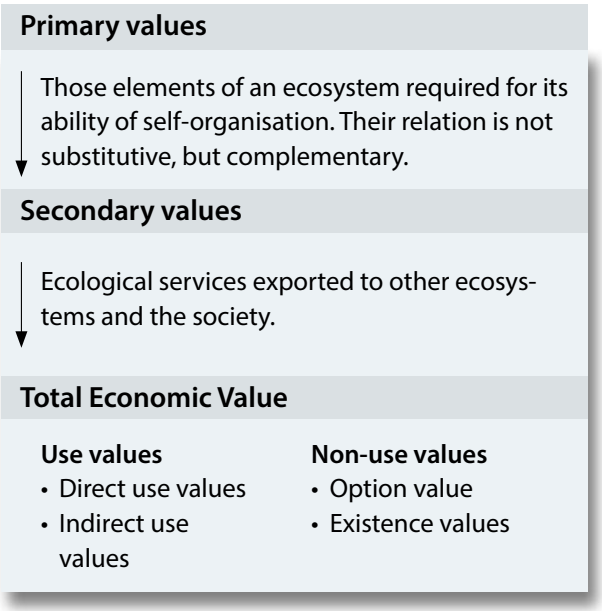

Figure 3.2 Total value of an ecosystem (Meyerhoff 1999: 32).

Building on its primary and secondary values, an ecosystem is able to fulfill certain functions. Aquatic ecosystems serve to provide flood control or to replenish groundwater, for example. In speaking of the functions of such ecosystems one must also distinguish whether they contribute exclusively to securing the existence of the structures and processes within the ecosystem and to promoting its development – then they constitute ecosystem functions or, in accordance with the Millennium Ecosystem Assessment (MA 2005), provide so-called supportive or basic services – or whether utility and benefit are generated directly for human beings through these functions – then they constitute ecological services in the sense of provisions and regulatory services as well as cultural services (MA 2005). It is possible for several ecosystem services to emerge from one ecosystem function while it is also possible for several ecosystem functions to be required to create a single ecosystem service (Constanza 1997: 256). In concrete terms, ecological services of nature exist if through provision of processes, goods or services by ecosystems a contribution to satisfaction of human needs is made.

The representation of ecological functions and the resulting services raises the question concerning the degree to which monetarisation of impacts on nature determines the "true" value of an ecosystem (as pertains to the following, see → figure 3.3). The economic evaluation as described above only embraces a segment of the total spectrum of ecosystem services. Values exist which defy monetarisation. In such cases one can merely attempt to estimate damages done to an ecosystem in terms of quantity without assessing it by attaching a monetary figure to it. If it is not even possible to make a quantitative assessment of effects which occur (negative or positive), for instance due to insufficient information or unreliability, all that can be done is to assess the environmental detriment caused by a decrease in biodiversity or a benefit resulting from increased biodiversity in qualitative terms.

In this sense the attempt made by economists to make certain foundations for policy-making processes more transparent through monetarization should be viewed as an approach which contributes to emphasis on the (economic) relevance of ecosystem services. What is decisive here is the demonstrative function fulfilled by economic evaluations, which argue on the basis of advantages ("benefits") and

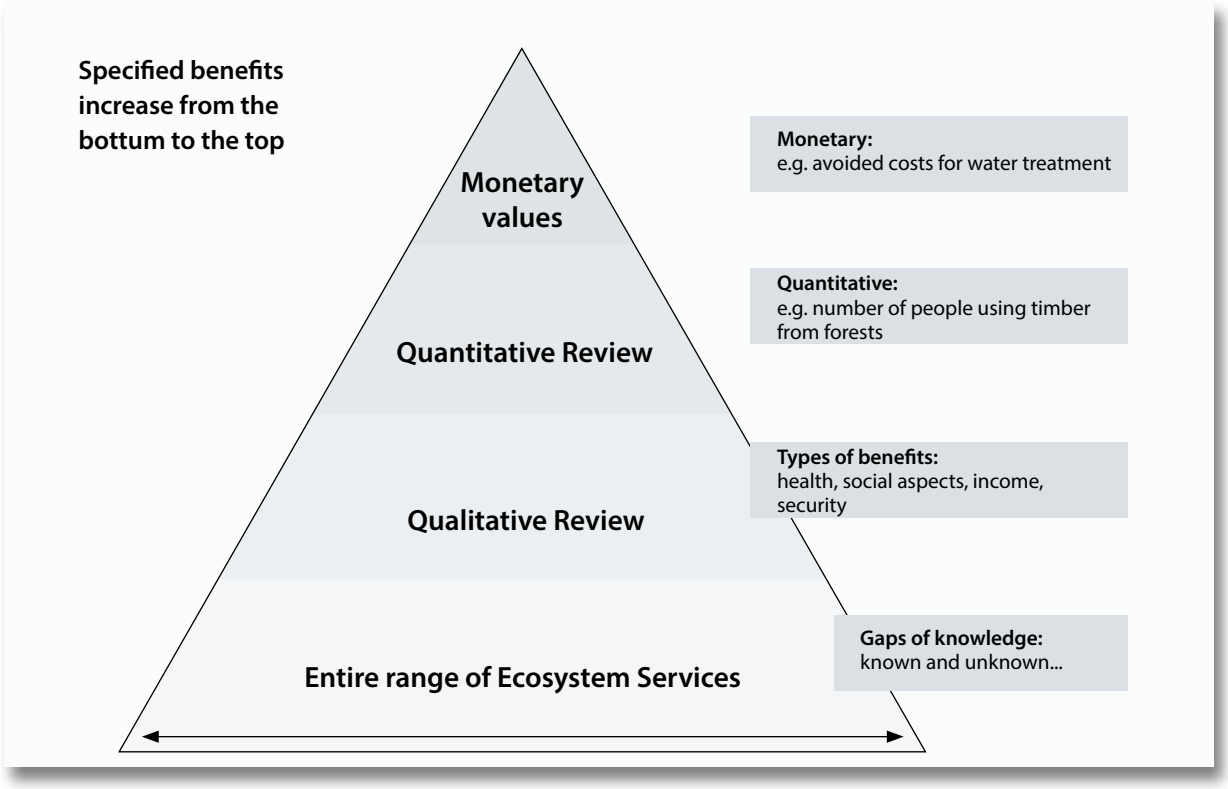

Figure 3.3 Values of biodiversity and ecosystem and their assessment (based on ten Brink 2008)

disadvantages ("costs") (cf. Fromm 1997; cf. WBGU 1999: 52 ff.; TEEB 2010a, chapter 5). After what has been said, one must note that economic evaluations can never encompass all values. Thus they are to be viewed as a lower limit for actual values. The actual value of nature is usually higher because additional primary values and certain secondary values are given which are not taken into consideration in the economic evaluation. In economic evaluations, reference is made to such aspects only too rarely. In certain cases the result of such an economic evaluation can be abandonment of nature (for example drainage of a wetland) even though the actual value of nature (in this case of the wetland), with its primary values taken into account as well, actually speaks in favor of its preservation. The limits of economic evaluation evidence themselves here.

3.3.3 The economic evaluation approach and ethics

If one attempts to contrast the economic approach towards assessing the values of nature, the scope of which has become clear, with an ethical perspective one must start by ascertaining that economics and ethics need not contradict each other at all or even need be opposed to each other. Economics itself is a normative science; it is thus based on certain fundamental norms and values – this is essentially what constitutes so-called "methodological individualism." It means nothing more or less than that economics is ethically substantiated, or that it has an ethical foundation. At best, ethics might provide additional foundations for justifying protection of nature and insofar extend beyond the economic approach, but it is not principally opposed to economics.

Thus if one embeds the economic perspective into a broader ethical discussion it follows, secondly, that in economic-ethical terms one can derive "appreciation" of nature from an argument of prudence. Human beings protect nature, ecosystems and biodiversity for (well understood) reasons of self-interest (Eser et al. 2011). It is to their own benefit and thus "prudent" to protect it and use it sustainably because this contributes to their well-being, to securing their own basis of existence and thus ultimately to their survival.

One should emphasize that this economic-ethical "perspective of self-interest and prudence" need by no means reflect self-interest in any very narrow sense. Prudence can be a broad concept which includes societal aspects – and thus also the interests of other individuals – in the economic consideraton. One should also emphasize that the economic approach with its categories of utility as represented in the framework of total economic value is very broad. From an economic standpoint, the "longing for a quiet walk" constitutes a value just as much as "the desire to protect the lives of one's own children" does (on this point Eser at al. 2011: 31 f. are of a different opinion). Thus the utility function of an individual does not involve exclusively economic factors in the actual sense but rather all forms of utility and benefit which derive from nature. These include its beauty, the good smell of the forest and the desire to pass on an intact environment to future generations. Altruistic values and notions of bequest even constitute aspects of intragenerational and intergenerational justice – at least in principle – even though these aspects are usually not articulated and analyzed by economists as intensively as by ethicists, for example.

3.3.4 How does TEEB deal with the problems of economic values?

The question remains as to how representatives of the TEEB initiative on the economics of ecosystems and biodiversity address the difficult question of dealing with values. To what degree is the TEEB study economically motivated? To what degree does it extend beyond economic approaches in the actual sense of the word and incorporate other value propositions as well?

First of all one must bear in mind that the various TEEB reports – on the ecological and the economic foundations (TEEB 2010a), for international and domestic politics (TEEB 2011), for regional and local policy-makers (TEEB 2010b), for business (TEEB 2010c) as well as the TEEB Synthesis Report (TEEB 2010d) – do not follow a clear and sharply demarcated definition. Thus an unequivocal definition shared by all authors regarding what is meant by "economic evaluation" and "the value of nature" will not be found here. This is not very surprising, however, considering the fact that more than 500 scientists, representatives of NGOs, governmental organizations and business participated in conducting the studies. Moreover, the TEEB reports had various addressees, with differing understandings of values deriving from this fact.

And yet, despite the lack of a mutual definition and despite varying nuances in the way concepts are used, one can detect, in regard to the way values are conceptualized in the various TEEB reports, a uniform conceptual framework for the application-oriented reports (TEEB 2011, TEEB 2010b, TEEB 2010c, TEEB 2010d) issuing from the foundational scientific study and a certain "TEEB spirit". This runs like a thread through all reports but it does not appear in the same clarity in every one. One can assume, however, that the majority of the authors who participated in drawing up the TEEB reports adopted this comprehensive perspective.

Let us endeavor to summarize the essential aspects of the economic understanding which underlies the TEEB Study:

1. One foundation is that the report is based on a broad understanding of values, not a narrow one. The studies have two points of departure, first of all biodiversity, and secondly ecosystems and the services they provide. Thus from the plethora of ecological processes and functions the focus is most certainly placed on services provided by nature for human beings. Therefore the athropocentric approach is essentially followed. Regarding the question as to which values derive from ecosystem services, reference is generally made to societally relevant values in the widest sense of the word, however, with economic values constituting only a segment of these. → Figure 3.4 illustrates the connections. Thus it is recognized that that which is evaluated by a society can extend beyond economic categories and that often societal policy-making processes do indeed go beyond such aspects. Thus society can have an appreciation for nature even if no such values are given in terms of an economic evaluation approach either because no corresponding utility is generated which could be evaluated economically or any given one should not be evaluated economically for ethical reasons, for example in cases where society has a particularly close relationship to nature (for cultural reasons or on the basis of historical experience which has led to a recognition of nature as having a value of its own).

2. The way in which values and the aspect of evaluation evidence themselves in the TEEB reports can also be seen as another indication of a wide understanding of values. The economic evaluation approach is always introduced very cautiously, with prudence and sound judgment (also see Ring et al. 2010). The TEEB reports adamantly attempt to counteract the impression that what is at issue is solely "vulgar-economic" monetarization. In particular Chapter 4 of the TEEB report on ecological and economic foundations, which deals with the socio-cultural context of evaluating ecosystems and biodiversity, serves as a clear example of this (Brondízio et al. 2010). In this chapter reference is made in an exemplary way to the anchoring of values in the societal, historic and cultural contexts in question. Values are always subjective and their formation (or non-formation, as the case may be) is always context-dependent. Context-dependent means: dependent on a cultural, psychological, social, institutional, religious, economic environment etc.

3. In the TEEB studies it is also stated repeatedly that an evaluation of ecosystems and biodiversity may not only be viewed under the aspect of monetarization; in addition to any monetary evaluation, a non-monetary quantitative evaluation of values is given in each case, performed with the help of certain indexes and indicators, along with a qualitative evaluation (TEEB 2010a, TEEB 2011). In principle the forms of evaluation are of equal rank here, and the question regarding the method of evaluation to be employed is usually made dependent on potential use of additional information involving for the most part more elaborate methods and additional costs (White 2011).

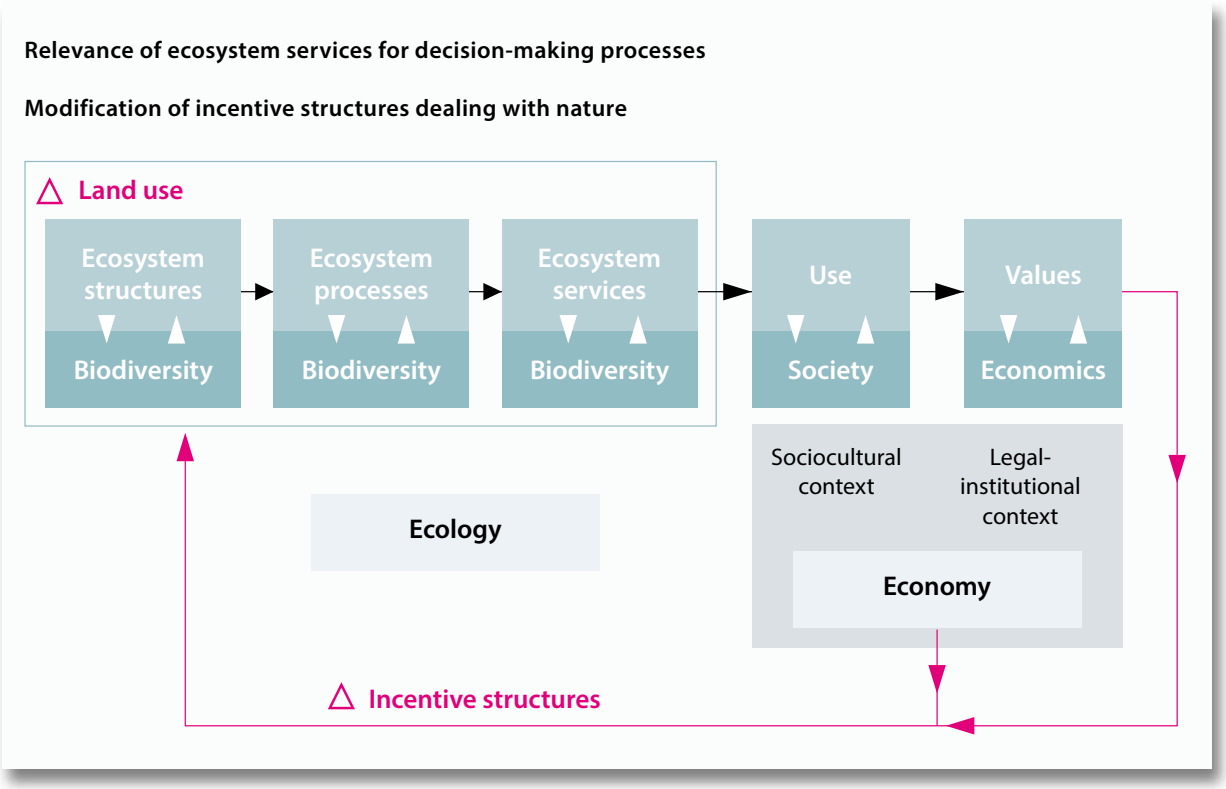

Figure 3.4 Relevance of ecosystem services for political decision-making.

4. A further element evidencing a broad evaluative approach can be found in the strong focus on persons affected. The importance of identifying persons concerned with respective interests, inclinations and value judgments and enlisting them in the evaluative process is emphasized time and again. A wholesale evaluation "over the heads of the persons concerned" is rejected. Just who is concerned by losses of ecosystem services is a crucial question. If, for example, indigenous populations are affected by certain changes in ecosystem services then according to TEEB, their interests as well as their understanding of nature are to be given particular consideration even if they have less financial solvency due to a lower income and thus show less willingness to pay (for an exemplary incidence cf. TEEB 2010b). Thus aspects of distribution policy in the sense of distribution of benefits and costs of biodiversity and ecosystem services are viewed to be more important than their absolute amount.

5. The aspect of involving persons concerned takes on a special quality where poor und underprivileged sections of the population are taken into consideration. The TEEB studies emphasize in a very particular way the connection between environment and development, between protection of ecosystems and biodiversity on the one hand and the protection of the poor and a reduction of poverty on the other. This aspect, which extends beyond arguments for the systematic inclusion of the interests of all affected parties, is to be seen in close relation to (intragenerational) questions of justice. Regarding this point the TEEB studies are indeed not based on arguments of prudence alone although these are otherwise dominant but rather extend to include aspects

of justice. Thus in the TEEB study the economic evaluative approach is expanded to encompass a specific perspective on justice. This is an essential feature of the TEEB approach.

6. One argument remains to be elucidated: the broad basis of the TEEB approach, which goes beyond purely economic aspects, ultimately evidences itself in a special way in the Synthesis Report (TEEB 2010d: 15f.). To analyze and structure valorization of biodiversity and ecosystems, the TEEB study aims at a step-by-step procedure at three levels: (1) recognizing values, (2) analyzing and demonstrating values, and lastly (3) integrating values into policy-making processes, for ex. into market mechanisms (capturing values). In this Synthesis Report it is explicitly stated that recognition of values need not necessarily have anything to do with an economic evaluation but rather can be immanent to societies. This holds in particular wherever the spiritual or cultural value of nature is anchored deeply in consciousness. Here no economic evaluation is required to achieve valorization by society, and sometimes an economic evaluation can even be inappropriate or counterproductive in this context when intrinsic motivation is crowded out by extrinsic incentives (e.g. prices for ecosystem services).

Thus apprehensions that the study might have a too narrow economic orientation – as far as the reports themselves are concerned – have no basis. The entire TEEB approach is intended to carefully weigh the possibilities and limitations of economic evaluation. Nevertheless the risk that the TEEB reports and the way they deal with economic values are represented in an abridged manner in the general public, for example in the media, cannot be denied. This risk can only be confronted through enlightenment, in particular through repeatedly emphasizing the broad character of the study.

3.4 What effects does TEEB have on politics and society?

It is not easy to assess the effects which an initiative like TEEB has on politics and society. Diverse potential areas of influence and modes of action evolve which must be taken into account. Here they should be designated as "paths of effect." The following paths of effect are conceivable:

- Changes in discourses on ecosystems and biodiversity;
- Raised awareness;
- Policy changes;
- Implementation of concrete policies;
- Changes in behavior in dealing with nature;
- Changes in the target dimension ultimately aimed at i.e. reduction in loss of biodiversity.

In the framework of this contribution it is not possible to illuminate these paths of effect for the TEEB study in detail. The parameters and criteria necessary to measure such effects are not available, nor is corresponding empirical data. Moreover the period of time between the completion of the individual TEEB reports (late 2010) and the formulation of this article (July 2011) is too short to identify any concrete effects. TEEB follow-up activities are still being carried out at the global as well as the domestic level of numerous countries. Furthermore, additional factors such as credibility and legitimacy play a role for the success of TEEB, which cannot be traced here. Ultimately some paths of effect such as reduction in loss of biodiversity are always the result of diverse factors of influence and are thus difficult to explain mono-causally.

The following remarks on the effects of the global TEEB Study on politics and society are thus to be viewed as tentative and subjective in nature. They are shaped by the author's participation in the TEEB scientific coordination group. To a certain extent they reflect "anecdotal evidence." Certain important effects can be named, however:

- Even though the TEEB study did not have as wide a scope as reports by the IPCC in the area of climate change, for example, the process of drawing up the individual TEEB reports nevetheless unfolded a broad effect. Through the involvement of numerous scientists and experts from practice as well as a large-scale appraisal process which involved, in turn, a large number of protagonists, a TEEB network was formed which also developed a multiplier effect. When inquiries were made on the part of the coordinators asking others to become active for TEEB there was always a large extent of intensive feedback on the part of the scientific community.

- With a view towards exerting an influence on the public discourse, TEEB can demonstrate considerable successes: there was comprehensive coverage in the media, in part in prominent places (for example a cover story in The Economist and Spiegel). TEEB was represented at important conferences (in the scientific as well as the non-scientific realm), where its issues were brought forth and discussed intensively. Numerous invitations to TEEB study directors, the authors of individual studies, the TEEB Cooperation Group and members of the TEEB Council from the realms of science, society and politics followed.

- TEEB exerted a considerable influence on political debates and international negotiations. Thus the "economics of ecosystems and biodiversity" played prominently in the strategic plan of the Convention on Biological Diversity (CBD).

- In several countries research programs and project funding on ecosystem services and their values were instigated. National assessment and appraisal of ecosystem services began in five countries and is currently in preparation in several additional countries. Furthermore, several

countries (including Germany) have decided to conduct a domestic TEEB study. In this way biodiversity is gaining in significance as a problem area.

In light of these developments, TEEB has already exerted a considerable influence on scientific, political and societal "paths of effects". The economic approach has been discussed on a broad scale and with intensity. The TEEB study brought existing arguments increasingly to the fore as well as formulating new arguments which are helpful for nature conservation. The key certainly lies in the concept of ecosystem services. The emphasis on this is particularly plausible and comprehensible and it has elicited a response from many protagonists who have otherwise had little affinity to biodiversity and nature conservation.

3.5 Concluding remarks

Following the global TEEB study, The Economics of Ecosystems and Biodiversity, this contribution addressed two questions. For one: which values of nature are assessed by an economic evaluation and what is the relationship between economic and ethical evaluation of nature? And secondly: can the problems concerning loss of biodiversity and degradation of ecosystems be successfully communicated by an economic approach like the TEEB?

With a view towards the first question as to whether and to what degree values of nature can be assessed by an economic evaluation it was shown that an economic evaluation approach is wider in scope than many non-economists might assume. The economic evaluation approach does not limit itself to assessment of use-related values in the business sphere but rather includes values independent of aspects of use. Although in principle the approach has an anthropocentric orientation, it incorporates ecological benefits of nature insofar as these – at least indirectly – exhibit a basis for human well-being. To be sure, "values" of nature which have no connection to satisfaction of human needs are not assessed by the economic evaluation approach and this economic approach always constitutes nothing more than a lower limit for the actual value of nature. Thus the economic perspective corresponds to ethical arguments – at least to some extent – which refer to prudence as a justification for protecting biodiversity. Aspects of (intra- and intergenerational) justice are also addressed by the economic approach to a certain extent, albeit not so comprehensively and extensively as by ethical lines of argumentation.

As an economically motivated study, the TEEB study is based on this foundation. It evidences a particularly broad and quite comprehensive understanding of the values of ecosystems and biodiversity. This shows itself in various individual patterns of argumentation used in the study:

1. TEEB points out that economic values always constitute only one (incomplete) section of societal values as a whole.

2. TEEB always emphasizes that values are embedded in historical, societal, institutional, economic and cultural contexts.

3. Monetarization is viewed as a possible but by no means exclusive form of expressing value.

4. In the TEEB study much attention is paid to the question as to who is affected by changes in ecosystems and biodiversity, with high priority being attached to aspects of distribution (and thus also implicitly aspects of justice).

5. The aspect of poverty and the fight against poverty are emphasized.

6. In TEEB a conceptual framework is developed which acknowledges not only the integration of values into policy-making processes (capturing values) but also recognition of values and the analysis and representation of values as elements of a comprehensive step-by-step process of "valorization."

Concerning the second question, namely as to whether and to what degree an economic approach can be utilized for communication of nature conservation, it was not possible to paint a comprehensive, scientifically founded picture. On the basis of tentative considerations regarding paths of effect it was possible to show, however, that there are indications ("anecdotal evidence") that the economic approach is indeed able to generate such an effect.

On the basis of this one can conclude that economic lines of argumentation can be used alongside ethical ones to raise awareness of issues concerning nature conservation and to achieve a stronger penetration of the political realm in this regard. Economic and ethical lines of argumentation do not oppose but

rather complement each other. If one considers that economic arguments are ultimately based on certain ethical principles and basic assumptions, this would seem to be an obvious conclusion. In public discourses, it is overlooked only too often, however.

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4 THE TRIAD PRUDENCE, JUSTICE AND THE GOOD LIFE

Our first chapter has explored the scope of ethics, biodiversity and communication in general. In chapters two and three, two external inputs contributed detailed expertise on the relations between ethics and politics on one hand and ethics and economics on the other. Against this background, this chapter now presents the analytical tool that we employed in our analysis of the four strategies under scrutiny.

National biodiversity strategies and the respective communication measures serve the implementation of the Convention on Biological Diversity on the national level. Hence, they are not mere conservation strategies, but have to address all three objectives of the CBD. These are (→ paragraph1.2.2):

- the **conservation** of biological diversity
- the **sustainable** use of biological diversity
- the **fair and equitable sharing** of the benefits derived from using biological diversity

Obviously, this triad of goals needs different justifications than just the first one does. If we want to gain support for biodiversity strategies we need to find good arguments to address the general question "Why?": Why should we care about biodiversity at all? Why should we conserve it, use it in a sustainable manner and share its benefits fairly? Why should we, as individuals or institutions, actively support the objectives of the CBD and engage in their realisation?

To these questions there are, in principle, three kinds of answers:

1. "Because it is in our own best interest" – This is the kind of argument we characterise as Prudence (→ section 4.2).

2. "Because we have a moral obligation to do so!" – This is the kind of argument we name Justice (→ section 4.3).

3. "Because it is good to respect biodiversity beyond its mere usefulness" – This kind of argument is referred to as the Good Life here (→ section 4.4).

Before we can address the three categories in more detail, the differences between them further explanation (→ section 4.1).

4.1 Revisiting the differences between facts, norms and values

The first kind of argument mentioned above seems to do without any ethics – it states a matter of fact rather than taking a normative stance. The second answer obviously involves normative claims about rights and duties ("You ought to" or "It is not allowed to"). The third does not invoke strict obligations but refers to assumptions about what it good or bad and what it means to lead a good life.

Sceptics could reply to the three kinds of answers with three different kinds of objections:

1. "Is it *really the case* that the loss of biodiversity threatens the survival of the human species?"

2. "Is it *right* that humans are not allowed to reduce biological diversity?"

3. "Is it *bad* to reduce biological diversity?"

In colloquial language, the second and the third objection would both be considered "moral" or "ethical" questions, these terms being used synonymously. Philosophers distinguish between

1. the *factual* question: is it false or true?

2. the *normative* questions: is it right or wrong?

3. the *evaluative* questions: is it good or bad?

Normative and evaluative questions are both within the scope of ethical enquiry. However, they imply different claims with regard to their binding character: An action that might not be considered wrong might still be considered bad. An attitude that is not considered an obligation can still be considered a virtue. In philosophy, the question as to what we *ought* to do and the question as to what we should *strive for* are different kinds of questions. If I hold an imperative to be *right* this means I consider it to apply to every person – not just me. If I hold a certain habit or attitude to be *good* I am convinced that I should strive for its realisation in my own life. I might also recommend others to adopt the same attitude. But I cannot demand it of them.

To illustrate the difference between Prudence, Justice and the Good Life, let's use the example of vegetarianism:

People can be vegetarians for merely **prudential** reasons. They don't eat meat because they believe that they will stay healthier and live longer on a vegetarian diet.

Other vegetarians consider it *wrong* to eat meat because they assume that animals have a right to live that compares to that of human beings. In these terms Refraining from the consumption of meat would be a *duty* to the animal (hence: a matter of **justice**).

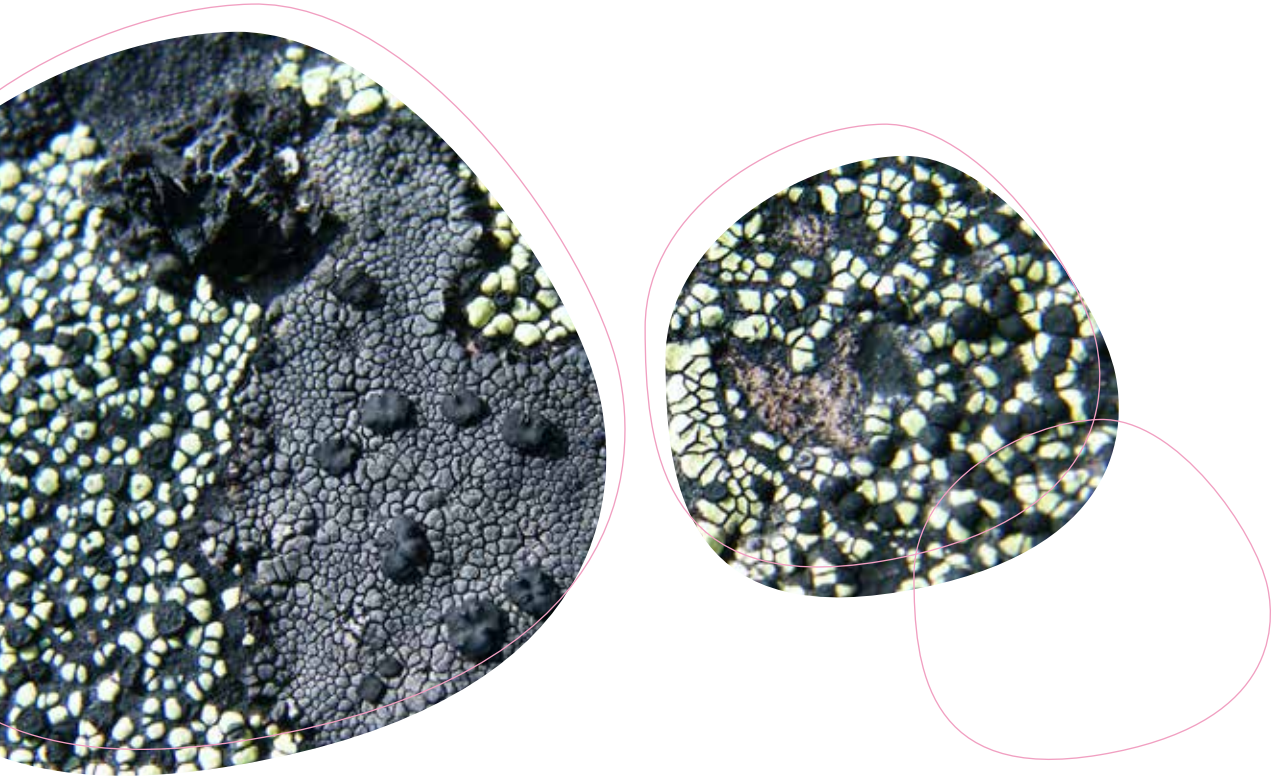
Others *prefer* not to eat meat because they consider it an *act of humanity* to refrain from killing members of other species as long as there are alternatives. They regard respect for living beings as a virtue that contributes to leading a meaningful and truly humane life (hence, they invoke arguments of the **Good Life**).

In philosophy, the question what we *ought* to do and the question what we should *strive for* are different kinds of questions.

Normative claims refer to *actions*, which are either allowed, demanded or forbidden. Conceptions of the good life refer to *attitudes* like respect, modesty, and care. These mindsets dispose us for certain actions rather than others but they don't stipulate them. Politics can only prescribe actions, not attitudes. "Keep off the grass!" means: You're not allowed to step on the grass, no matter if you do it without thinking or to admire a butterfly. However, motives and attitudes do matter for our moral and even legal

judgements. It does make a difference if someone hurts another person on purpose or accidentally, for malicious reasons or for the person's own sake.

Of course, the philosophical debates about the relation between what is right and what is good cannot be resolved here. Nevertheless, the differences between true/false, right/wrong and good/bad are enormously significant because these different kinds of questions often get mixed up in the discourse on biodiversity. In order to enhance coherent communication, it is indispensable to be as clear as possible about the issues at stake: facts, norms or values.



4.2 Prudence: "Because it is in our best interest"

We begin our analysis with the kind of argument that clearly dominates the discourse on biodiversity: the prudential argumentation. In the following we will first explain what exactly we mean by Prudence (→ paragraph 4.2.1). We will then present some strengths of the prudential argumentation that explain why Prudence is such a popular argument (→ paragraph 4.2.2). Finally, we will explore the normative components of Prudence and substantiate the claim that Prudence needs ethics (→ paragraph 4.2.3).

4.2.1 What do we mean by Prudence?

Prudential arguments emphasize biodiversity's utility for human purposes. They regard action in favour of biodiversity as a matter of human self-interest. 'Thresholds', 'life insurance' and 'ecosystem services' are variants of the prudential argument.

By Prudence we mean all arguments that in one way or another appeal to the existential dependence of humans on biodiversity and the ecosystem services it provides. Prudential arguments, thus, focus on the **usefulness** of biological diversity for the satisfaction of human needs. Biodiversity, in other words, is regarded as being **instrumentally valuable** for the realisation of human purposes. When asked for reasons why people should commit to the goals of the CBD, the prudential argument answers: "Because it is in our own best interest".

"We are sawing off the branch we are sitting on" or "We're biting the hand that feeds us" - these proverbs are typical messages of the prudential argument. Biological diversity is seen as the branch that sustains human life (→ figure 4.1). We simply would be ill-advised if we continued to cut it off.

Figure 4.1 "We're sawing off the branch we're sitting on" (© Klaus Scheidler/arboristik.de; modified)

The prudential argument essentially appears in three slightly different versions:

1. the "rivet in a plane" argument
2. the life insurance argument
3. the ecosystem services argument

(1) Being aware of the fact that human life doesn't literally depend on each and every single species or variety, the **rivet-in-a-plane argument** is an early and famous version of the prudential argument that clearly involves a reference to precaution: Even if we do not know exactly if the loss of a *single* species will actually harm us, we do know that beyond a yet unknown threshold the *sum* of all species lost *will* threaten human life. The loss of species thus poses a severe risk to human survival even though we don't know the probability of occurrence. According to the precautionary principle, it is advisable to avoid such risk. In their 1981 book on extinction, Anne and Paul Ehrlich (1981) used the metaphor of the rivets in a plane to illustrate this kind of argument (→ box 4.2).

The rivet poppers

As you walk from the terminal toward your airliner, you notice a man on a ladder busily prying rivets out of its wing. Somewhat concerned, you saunter over to the rivet popper and ask him just what the hell he's doing.

"I work for the airline – Growthmania Intercontinental," the man informs you, "and the airline has discovered that it can sell these rivets for two dollars apiece."

"But how do you know you won't fatally weaken the wing doing that?" you inquire.

"Don't worry," he assures you. "I'm certain the manufacturer made this plane much stronger than it needs to be, so no harm's done. Besides, I've taken lots of rivets from this wing and it hasn't fallen off yet. Growthmania Airlines needs the money; if we didn't pop the rivets, Growthmania wouldn't be able to continue expanding. And I need the commission they pay me – fifty cents a rivet!"

"You must be out of your mind!"

Box 4.1 The rivet poppers (Ehrlich & Ehrlich 1981, Introduction)

"Any sane person", Ehrlich and Ehrlich say, would refrain from flying in an airplane where someone ripped off rivets, and would choose another carrier. However, they continue, this is impossible on spacecraft Earth: We have no option but to fly. Popping out rivets from the wing of your plane is hence considered insane. A prudent person would not do such a foolish thing.

(2) The **insurance argument** also refers to precaution but has a slightly different take. Rather than cautioning about possible thresholds it emphasises the *potential* usefulness of species that don't have any use that we know of so far. In an ever changing environment, the insurance argument goes, species or varieties that bear no significance for the functioning of the ecosystems that support human life today might become more important in the future. Adaptation to climate change is one important example of this kind of argument. The German biodiversity strategy features a broad "portfolio" of species ecosystems and genomes as insurance against the risks posed by climate change (GNBS 2007: 12,13). And the European strategy makes reference to it directly in its title: "Our life insurance, our natural capital".

(3) Currently, a third kind of prudential argument is becoming increasingly important: the contribution of biological diversity to the provision of **ecosystem services**. From 2001 to 2005 the Millennium Ecosystem Assessment (MA) assessed the consequences of ecosystem changes for human well-being. It broadly defined ecosystem services (ES) as "the benefits people obtain from ecosystems" (MA 2005: 49). Since the publication of the MA, the value of biodiversity has increasingly been addressed in terms of ecosystem services. The ES-approach focuses biological diversity as constituent of ecosystems. The *interactions* of organisms with each other and with the biological and physical environment constitute ecosystems, of which humans are considered as parts. Like the above arguments, the ES argument emphasises human dependence on the properties of the ecosystem. Unlike the rivet-in-a-plane-argument, it addresses not only the sheer *existence* of humans on the planet, but a broader concept of human *well-being* that includes cultural, religious and aesthetic needs (for details of ES valuation → chapter 3, for a broader concept of well-being → chapter 8). As ecosystem services are currently an increasingly important argument in biodiversity communication we dedicate one chapter of part two to a more detailed discussion of this issue (→ chapter 6).

4.2.2 Why Prudence is such a popular argument

Prudential arguments dominate the current discourse on biodiversity. We suppose that they are preferred mainly for strategic reasons. Because they appeal to self-interest they are considered to be objective and independent from moral commitments.

Prudential arguments clearly dominate the political discourse on biodiversity. Hardly any communication goes without reference to the "existential meaning" of biodiversity. It can reasonably be supposed that this preference has an important strategic reason: It is assumed that recipients of the communication will more readily "buy" arguments that refer to their own well being and don't require a disposition to altruism. The preference of prudential arguments is associated with two assumptions:

1. Prudential arguments are based on facts – they can hardly be denied

2. Prudential arguments don't require moral language – they appeal to self-interests

Both assumptions need to be subject to further scrutiny here.

"Stick to facts!" – this advice seems to guide the argumentation in biodiversity strategy papers. In order to reach all relevant groups and stakeholders, national biodiversity strategies seek to base their communication on arguments that can be understood and shared by all people – independent of their status, profession, religion, world views, and personal beliefs. Science is considered to produce such "objective" truths which do not depend on personal preferences or mindsets. Therefore, political strategies tend to rely on scientific (i.e. supposedly objective) facts like ecological and economic arguments rather than on supposedly subjective values.

However, biodiversity strategies necessarily have normative intentions that stay in concealment behind the façade of facts. By presenting climate change or biodiversity loss as "inconvenient truth", politicians not only seek to base their appeals on firm ground, but also to avoid the pitfalls of highly contested ethical terrain. Therefore, they appeal to common sense than to moral beliefs. Not sawing off a branch you are sitting on is simply a matter of common sense – it doesn't require any morality.

Avoiding moral language is a recommendation that can often be heard in contemporary environmental education. In order to reach their audience, hence for strategic reasons, educational institutions tend to stay away from pointing fingers and emphasise individual benefits than duties instead.

Sure enough, the quest for a convincing argumentation that is not based on particular values or commitments is comprehensible. However, from the ethical perspective of this report we have to ask if our physical dependence on biodiversity actually does provide not only a *strong* but also a *good* argument for its conservation. The common assumption seems to be that factual information provides the strongest arguments, for example:

- If it is *true* that humans depend on biological diversity it is advisable to take good care of it.

- If it is *true* that the technical replacement of lost ecosystem services causes considerable costs for national economies, measures to preserve these services can be justified.

Most likely, there are still a lot of people – politicians, consumers, managers – who have not yet fully recognised to what extent our individual and economic well-being actually does depend on products and services supplied by biological diversity. For all these groups information about such "facts" and "truths" is indeed an essential part of communication on biodiversity. However, it is not sufficient.

The flipside of the coin is that the power of our argument depends on the truth of the factual premises, if we solely rely on factual information. This becomes obvious when we change the emphasis in the above sentences:

- **If** it is true that humans depend on biological diversity it is advisable to take good care of it. – But what about the species that definitely do not contribute to human well-being?

- **If** it is true that the technical replacement of lost ecosystem services causes considerable costs for national economies, measures to preserve these services can be justified. – But what if the technical replacement is a lot cheaper than the conservation of the ecosystem service?

Hence, the validity of the factual premise is a serious hitch in this kind of argumentation.

Yet there's a second, and philosophically more relevant, drawback. By restricting communication to facts, the normative premises remain implicit instead of being explicated. As we have argued in chapter one, facts and norms are different from each other: The step from 'Is' to 'Ought' requires value statements. Prudential arguments often rest upon a short circuit between facts and norms: Facts are presented, and the normative message seems to follow (examples from the strategies analysed are presented in Part 2). But: The actions that need to be taken do not simply follow from the facts. The conclusions depend on moral commitments. The "recipients" of our communication have to agree to the *moral* claim that the promotion of human well-being is good. They have to agree that actions which benefit humans should be preferred to actions that don't benefit humans. Though this assumption seems to be very basic and intuitively acceptable, it is far from being trivial. In any case, it doesn't go without saying. And as long as it is hidden behind a "stick-to-facts" argumentation we have no chance to talk about it.

Prudential imperatives are thus hypothetical in two respects:

1. They depend on the truth of the factual premises: If (and only if) the factual premise is correct, the conclusion is valid.

2. They depend on agreement to the (only implicit) normative premises: If (and only if) people agree to the normative premise they will also agree to the conclusion.

This ethical dimension of the prudential argumentation will be highlighted in the following section.

4.2.3 Why prudence needs ethics

Prudential arguments are based on enlightened self-interest – a concept that goes far beyond individual self-interest.

One value that prudential arguments in biodiversity communication mostly refer to is human self-interest. It is often assumed that this interest goes without saying and does not need further explanation. In this section we will explain why the appeal to self-interest does only provide a sound reason for action if it is understood in a broad way: Not as personal self-interest, but as enlightened self-interest of humanity.

Prudential arguments, we have argued, seek to found their call for action in human self-interest. By impairing biological diversity, the argument goes, "we" harm ourselves. Therefore, "we" would be ill-advised to continue. A typical representative of this kind of argumentation would be the 2010 EU biodiversity campaign "*Biodiversity. We're all in this together*" (→ chapter 7). As we have conceded above, such an argumentation has the strategic advantage of allowing for awareness raising without pointing fingers at individual institutions or practices and therefore has the potential to reach many people.

However, the tricky part in this argumentation is the "we": "We" in this case is used in a generic sense, not in a personal one. The argument doesn't refer to particular persons living here and today, but to the well-being of the human species, or (this often remains unclear) to all human beings living today and in the future. Thus, the argument does not only appeal to *my personal* self-interest, but to my *enlightened* self-interest as a human(e) being. By using the collective subject "we", the dominant kind of argument suggests an identity of doer and done-to that does not really represent the facts appropriately. Individual actions, political institutions or economic structures that harm biodiversity stay in concealment behind the façade of the collective subject "we". Very often, it is not literally our *selves* that "we" do harm to, but others: other people in different parts of the world, other people who are not even born yet – and of course also other species. By contributing to the incremental decline of species richness, we do not really endanger *our personal lives*, but the *lives of others*. The way we live in the well-to-do countries of Europe, our modes of production and consumption, do harm not only to ourselves, but also to the livelihoods of people living far away – either in space or in time.

From a moral point of view, this difference is crucial. It is one thing if the consequences of my action are restricted to my own person. It is something completely different if they affect others. To understand this difference is imperative for our communication. Prudential arguments are good arguments only if they transcend individual benefit in favour of a long term collective benefit. Let us illustrate this difference with an example:

eXample

If I spray my strawberries with fungicides a day before picking them I run the risk of getting intoxicated. If someone told me what harm I did to myself by doing this, this would probably keep me from continuing. Moral language would not be required. The appeal to my self-interest would be sufficient. If a farmer sprayed the strawberries a day before selling them on the market, the situation would be different. Information about the harmful effects of fungicides on the human body might then not be enough. A mean person might still say "What do I care?" and continue. Hence, the communication of mere facts and the appeal to self-interest is not sufficient in this case. The normative message that is implied in the information about negative effects is: You ought not to sell contaminated fruits on the market. Such a norm can not be reasonably based on self-interest alone.

A selfish reason for not selling contaminated fruit would be that I would lose customers if they found out that the goods I sell pose a risk to their health. Not to sell polluted merchandise would, then, be merely technical advice on how to be a successful tradesman. Doubtless, most people would agree that this pragmatic reason for not selling polluted merchandise might be an effective reason but may be not a really good reason.

Prudential reasoning requires a broader perspective than that: It is prudent to refrain from selling toxic goods on the market because it might contribute to my well-being in the long run. If I sell noxious merchandise I must fear that others will do the same. At the end of the day, all of us are better off if we stick to the rule to not sell toxic stuff. Hence, even though I might personally profit from acting imprudently, I refrain from doing so for a long-term, collective perspective. This is what we call enlightened self-interest. However, to take this perspective is a matter of choice, not of duty. This is why Kant called imperatives based on prudential reasoning "hypothetical" imperatives.

Prudential arguments are good arguments only if they transcend the individual benefit in favour of a long term collective benefit.

Beyond prudence, a more obliging reason for not selling goods to people that put their health at risk is moral respect for those people. The health and physical integrity of my fellow human beings are values in themselves that I have a duty to respect – independent of my personal benefit.

The argument that is currently preferred because it seems to refrain from moral appeals actually rests on an ethical foundation : the decision to take responsibility for our actions and for their consequences.

The prudential argument, thus, requires far more than common sense to be convincing and adequate. It requires us to broaden the individualistic perspective into a generic perspective. It is not only harm to my own person that I have to be concerned about, but also harm that is done to my fellow human beings – today, and in the future. The point of reference is not my personal self-interest, but human self-interest. This expansion of concern is not to be taken for granted. It requires a moral attitude. Hence, the argument that is currently preferred in communication on biodiversity because it seems to refrain from moral appeals actually rests on an ethical foundation: the decision to take responsibility for our actions and for their consequences. As normative conclusions that are based on enlightened self-interest depend on the willingness of people to adopt such a perspective, they are, in Kantian language, only "hypothetical" imperatives. They are convincing if (and only if) people consider refraining from immediate personal for the (long-term) benefit of all is a contribution to their own well-being.

4.3 Justice: "Because we have moral obligations"

In the previous section we presented prudential arguments as the dominant kind of argumentation. We supported the view that prudential arguments pose strong arguments as long as they expand merely personal self-interest to generic human self-interest. Such a commitment doesn't work without ethics – but it can reasonably be assumed that a broad audience would be willing to take this step, even if it were explicitly called for.

However, the prudential argumentation "By impairing biological diversity we endanger our own well-being" has limits that can be marked by the two questions "Who precisely are 'we'?" and "What exactly is well-being?" While the latter aspect will be treated in the last section on the Good Life (→ section 4.4), the relationship between victims and offenders will be examined in this section under the header Justice.

To illustrate the major concern of Justice, let us briefly recall the image frequently used in prudential arguments: "We are sawing off the branch we're sitting on". If you take a look at → figure 4.1 you'll easily see that the person who is eagerly sawing off the branch does indeed not look like a person actually living in or coming from the rain forest. In fact, with regard to the global and temporal dimension of our actions today, it is very often the case that "we" (meaning Europeans here and today) are cutting off branches on which *someone else* is sitting somewhere else – or would like to sit on in future. And with regard to that concrete person it is not merely a prudential recommendation to spare her livelihood but a matter of Justice.

In the first paragraph of this section we will explain the general concept of justice (→ paragraph 4.3.1). We will then address two aspects of justice within generations: global justice (→ paragraph 4.3.2) and environmental justice (→ paragraph 4.3.3). Paragraph 4.3.4 regards justice between generations. While all these paragraphs refer to moral duties to our fellow human beings, the contested question of moral duties to the natural world can be illustrated by another common proverb: "We are biting the hand that feeds us". This statement can be understood in two different ways: (a) It is foolish to bite the feeding hand because you'll end up starving – this is the prudential argument we treated in the previous article. (b) It is (morally) wrong to bite the feeding hand – you owe respect or gratitude to your nurturer. In this second way of framing the problem, the centre of concern is not only human beings, but nature itself. While concern for other humans is captured in the term "environmental justice" (→ paragraph 4.3.3), concern for biodiversity itself is addressed in terms of "ecological justice" (→ paragraph 4.3.5).

4.3.1 What do we mean by Justice?

The category Justice contains all kinds of arguments that formulate an obligation. Justice is about norms. It refers to actions that we have reason to demand from others.

The main difference between Prudence and Justice is marked by the binding character of claims based on the respective arguments. Prudential claims are recommendations rather than obligations. They are based on the willingness to care for one's self and for one's future. A wise person would not undermine the biological basis of her existence – but wisdom is not a moral duty. In everyday life, we often don't act according to the commands of Prudence – and no one can blame us as long as we don't harm anybody else.

In contrast to this, the commands of Justice have a more binding character. It is not left to our own disposal if we follow the rules of justice or not. The realm of Justice is ruled by rights and duties. These concepts trump prudential recommendations in substantiating binding norms. Justice describes

what we *owe* to others: to our fellow human beings today, to future generations or to non-human entities. Arguments of Justice propose moral duties, not mere recommendations. They are therefore stricter than prudential arguments. They intend to constrain peoples' behaviour – whether these people are inclined to follow those rules or not. It is because of this potentially restrictive character that arguments of Justice pose strong arguments – and at the same time need solid justifications.

The obliging character of justice

"There is, however, another virtue, of which the observance is not left to the freedom of our own wills, which may be extorted by force, and of which the violation exposes to resentment, and consequently to punishment. This virtue is justice: the violation of justice is injury: it does real and positive hurt to some particular persons, from motives which are naturally disapproved of. [...] And upon this is founded that remarkable distinction between justice and all the other social virtues, [...,] that we feel ourselves to be under a stricter obligation to act according to justice, than agreeably to friendship, charity, or generosity; that the practice of these last mentioned virtues seems to be left in some measure to our own choice, but that, somehow or other, we feel ourselves to be in a peculiar manner tied, bound, and obliged to the observation of justice. We feel, that is to say, that force may, with the utmost propriety, and with the approbation of all mankind, be made use of to constrain us to observe the rules of the one, but not to follow the precepts of the other."

Box 4.2 The obliging character of justice (Adam Smith (1790), A Theory of Moral Sentiments, paragraph II.II.5)

4.3.2 Global Justice

The commitment to access and benefit sharing is more than a concession to negotiating powers. It entails acknowledgement of equal rights of all people living on the globe. The fair sharing of benefits is a matter of distributive and retributive justice, not merely a matter of prudence.

The "*fair and equitable sharing of the benefits arising out of the utilisation of genetic resources*" is one of the CBD's three equally important goals. By stating this goal, the idea of Justice is made a core element of the convention. While the prudential argumentation rightly focuses on the importance of biodiversity for human well-being, arguments of Justice address the question as to how access to those constituents of human existence is distributed on a global scale. In its preamble, the member states not only subscribe to the view that biological diversity is crucial for meeting the food, health and other needs of a growing world population. They also concede that eradication of poverty is a top priority for the developing countries and that access to and sharing of genetic resources and technologies are essential (→ box 4.3).

"Recognizing that economic and social development and poverty eradication are the first and overriding priorities of developing countries,(…) Aware that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential"

(CBD 1992, preamble)

Box 4.3 Commitment to human development and benefit sharing in the preamble of the CBD

This aim is also established in Principle 5 of the Rio Declaration. This document builds the political framework and foundation of the CBD (→ box 4.4).

> "All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world."
> (Rio Declaration, Principle 5)

Box 4.4 Commitment to global justice in the Rio Declaration

This chapter asks for good reasons for the implementation of the CBD. In the quest for good arguments for *this* aspect of the CBD the question is: "*Why* should anybody support the goal of fair and equitable sharing?" Is it for merely prudential reasons? Or are there other reasons – maybe even better reasons? The use of the concepts "fairness" and "equity" in the first paragraph of the CBD indicates that such a goal needs to be substantiated by more than merely prudential arguments.

Biological diversity, regarded as an important resource for biotechnology, and the monetary and technological means for using them, are not distributed equally on the globe. Important hotspots of biodiversity are in countries which are economically poor but rich in biodiversity. Conversely, the economically strongest nations of the world are relatively poor in biological diversity. The claim of a fair and equitable sharing of benefits addresses this inequality. Being the result of tough international negotiations, the ABS regime represents a "tit for tat"-strategy: If the rich nations provide poorer nations with technological and financial means these will, in return, provide them with access to valuable biological resources. Fairness would then be regarded as a matter of functionality: The mutual exchange will only work if both sides feel comfortable with the deel. In such a *functional* perspective, fairness would be a matter of Prudence.

However, reducing biological diversity to genetic resources is a quite narrow approach. Biological diversity sustains and enriches human lives in more ways than by providing raw material for biotechnology. First of all, biological diversity supplies goods that all humans need to fulfil their basic needs: food, fibres and fuel. Indirectly (via regulatory services), it provides water, air and soil. Access to those goods is essential for human life. Hence, the call for access and benefit sharing can, and actually should, not be restricted to genetic resources and their technological use. In fact, it should be understood that the goal is to ensure that each and every human being on the globe has equal access to the biological preconditions of human existence.

The call for access and benefit sharing should not be restricted to genetic resources and their technological use. It should be understood that the goal is to ensure that each and every human being on the globe has equal access to the biological preconditions of human existence.

As is well-known, the satisfaction of human needs is far from being distributed equally over the globe. The same is true for the consumption of natural resources. 20 years after the Rio conference, 20% of the world's population still consume 80% of the natural resources. At the same time, more than a billion people still live in extreme poverty (Human Development Report 2011). This unequal distribution of life chances was addressed by the Rio declaration. By signing the declaration, the industrialised countries concede not only that life chances should be distributed more equally. What is more, the developed countries acknowledge that they bear a particular responsibility in this process due to the negative environmental impact of their modes of production and consumption on developing countries (→ box 4.5). By recognising "common but differentiated responsibilities", the industrialised countries accept the moral principles of distributive and retributive justice.

Common but differentiated responsibilities

"States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command."

Box 4.5 Common but differentiated responsibilities according to the Rio Declaration (Principle 7)

Hence, the conference of Rio in 1992 – and with it the Convention on Biological Diversity – advocated the idea of distributive justice and of retributive justice. That means every strategy that serves the national implementation of the CBD should reflect this commitment – and appropriate communication needs to address it, too.

4.3.3 Environmental Justice

Environmental justice refers to moral duties to other human beings with regard to environmental harms and benefits. With regard to biodiversity, it includes the fair and equitable sharing not only of benefits, but also of burdens of biodiversity conservation and its sustainable use. Given the impact of European modes of production and consumption on Non-European countries, retributive justice is a key question in international cooperation. To ensure a nationally and globally just distribution, questions of procedural justice have to be addressed as well.

The concept of environmental justice originated in the United States in the 1980 (Schlossberg 2007). The environmental justice movement first drew attention to the fact that not all people were equally affected by environmental hazards (→ box 4.6). Rather, the poor or otherwise marginalized communities were exposed to more risks with regard to the environment: higher exposure to noise, fumes, and toxic waste in their neighbourhoods, higher exposure to hazardous chemicals in their work places – end less education about prevention measures.

"The critique of the distribution of environmental goods and bads is central to environmental justice movements." (Schlossberg 2007: 45)

Box 4.6 The concept of environmental justice

This unequal distribution was decried as being unjust because the people primarily exposed to environmental hazards a) were not responsible for the causes and b) didn't have the means to control or eliminate the causes.

As we saw in the last paragraph, environmental justice is an issue in biodiversity policies as well. With regard to the topic "global justice" we have focused on the benefits of biodiversity and their globally just distribution. Biological diversity is not distributed equally over the globe – neither are the economic and technological means necessary to draw benefit from genetic resources. While uneven distribution of biological resources is the result of natural differences between the heterogeneous regions of the world, economic and technological differences cannot be explained by natural differences only. They are – at least in part – the result of historical processes in which biodiversity costs and benefits were not distributed equally. Given the size of the ecological footprint of European countries and their high living standards, it can be assumed that Europeans have had a higher benefit from biodiversity decline than people in developing countries. To halt the loss of biodiversity, a higher contribution by the ones who had the greatest benefits from its loss can be expected from a perspective of **retributive justice.**

The ABS (Access and Benefit Sharing) mechanism has been installed in order to meet the demands of a just distribution of costs and benefits. It can and should therefore be understood, and communicated, as a matter of environmental justice: The benefits and burdens of the conservation of biological diversity and the utilisation of genetic resources have to be distributed in a just manner. With regard to the uneven distribution of resources and technologies, technological and financial transfer measures have to be understood as acts of retributive justice rather than as voluntary accomplishments.

The flipside of biodiversity benefits are **biodiversity costs**: money that someone has to pay or monetary profits that someone has to renounce. Official communication on biodiversity tends to present biodiversity policies as win-win-scenarios (examples will be discussed in more detail in chapter seven). To be sure, the quest for such solutions is a respectable and desirable strategy for solving conflicts around biological diversity. However, sincere and veritable communication on biodiversity may not conceal the fact that the implementation of the CBD will ask for sacrifices from some people – be it individuals or organisations, institutions or corporations. This can be observed whenever policies restrict the use of biological resources in a given area: The designation of National Parks as well as restrictions on oil exploitation give rise to protest by those whose use options get impaired. To solve such conflicts, communication has to be explicit about the values involved and the distribution of benefits and burdens.

Besides the satisfaction of basic human needs, biological diversity has value not only for its potential direct usefulness, but value that is founded in cultural, religious, social, aesthetical, biographical and emotional relations between humans and nature. Such ideational values constitute interests with regard to biodiversity that compete with other more material use-interests. In cases of competing interests that do not concern basic needs we are confronted with difficult trade-offs: Who gets the right to use (a particular element of) biodiversity in a way that compromises other ways of using it or relating to it? With regard to those interests, the goal of a fair and equitable sharing of access to and benefits from biological diversity can (and should) be interpreted as the goal to ensure that all interests in biodiversity are taken into consideration in equal measure: non-use-interests as well as use-interests. When use-interests outweigh non-use interests, as is often the case in political decision processes, it has to be ensured that in some places at least non-use interests are allowed to outweigh use-interests. Otherwise, biodiversity policies would not be well-balanced but lopsided in favour of use-interests.

Only if communication explicitly acknowledges that the conservation and sustainable use of biodiversity brings about benefits and costs can we begin the debate about which sacrifices can reasonably be expected from individuals or countries – and where compensations are called for. This is true not only on the global scale (justice between nations) but also on the national and local scale (justice within nations). While justice between generations is actually addressed under the ABS-regime, aspects of environmental justice on the national level tend to be bunderrepresented in all strategies analysed.

Only if communication explicitly acknowledges that the conservation and sustainable use of biodiversity brings about benefits and costs can we begin the debate about which sacrifices can reasonably be expected from individuals or countries – and where compensations are called for.

The question of a fair distribution of costs and benefits of biodiversity conservation brings about another aspect of environmental justice: **procedural justice**. Procedural justice is needed to make sure that

the re-distribution of the benefits of biodiversity is acceptable for all people involved. This is a question that needs to be addressed while making a strategy: Who is involved, who has a substantial impact, who decides etc.?

4.3.4 Justice between generations

In the environmental discourse, consideration of the needs of future generations does not count as "nice to have" but is considered a "must". Finding the appropriate balance between obligations to current and future generations is one of the main challenges of global change ethics.

Both the Rio Declaration and the CBD address needs of future generations and concede the need to equitably share benefits between present and future generations (→ box 4.7).

> "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations (Rio-Declaration 1992, Principle 3) Determined to conserve and sustainably use biological diversity for the benefit of present and future generations," (CBD 1992, Preamble)

Box 4.7 Reference to future generations in the Rio Declaration and the CBD

In search of good reasons for such a commitment we again ask "Why?": Why should we care for the generations to follow? Is such a commitment a matter of Prudence – or rather a matter of Justice?

In his landmark book "The imperative of responsibility" Hans Jonas compared our collective responsibility for future generations to the individual responsibility of parents for their children. One does not need to share Jonas' view that human beings care for their own offspring by instinct to acknowledge the fact that the continued existence of human beings on the planet has been and still is one of the central motives of the environmental movement. According to the German Naturbewusstseinsstudie 2009, 55% of the respondents think that we ought to conserve nature for the sake of future generations (BMU 2010). Thus the normative claim that we today do not have the right to undermine future generations' ability to live, today meets with broad public approval.

Who has the right to determine which needs have to be met today – and which ones have to be compromised for the sake of future generations?

The idea that future generations make moral demands on the current generation can be illustrated with a slogan that was propagated by environmentalists in the 1970ies: "*We do not inherit the Earth from our parents – we borrow it from our children*". This motto demonstrates the difference between Prudence and Justice with regard to nature conservation. Obviously, as a matter of fact, we do inherit biological diversity from our ancestors – as well as the knowledge about it and the technologies to make use of it. But the claim of the slogan is not a factual but a moral one: It demands conservation and sustainable use as a matter of intergenerational justice. To regard the Earth (or biodiversity) as a debt to our descendants rather than the heritage of our ancestors is a turnabout of perspectives that is crucial from an ethical perspective: To leave something of your inheritance to your children or grand children is only a matter of Prudence, not of moral duty. A person who wastes her fortune might not receive our greatest respect – but we cannot force her and we will not ask for her punishment. But: If we regard the Earth and its biological diversity as well as the goods and services both provide as our debt to future generations, our legacy becomes a matter of justice. We then have a *moral obligation* to return what we have borrowed, in fact, to return it in good order.

The language of rights (rights that we don't have or rights that future generations do have) belongs to the realm of Justice. Today, the moral belief that our dealing with the needs of future generations is a matter of Justice is so widespread that it can almost count as a truism. To substantiate biodiversity strategies with the rights of future generations therefore is a promising strategy because it meets the intuitions of so many people.

However, as Marcus Düwell has shown in → chapter 2, the popular argument proves to encompass several challenges. One of the challenges is the problem of reciprocity that can be illustrated by the unsurpassed remark of the American Comedian Groucho Marx: "*Why should I do anything for posterity? What has posterity ever done for me?*" Obviously, such a tit-for-tat-strategy would only provide a very narrow prudential argument: If we only accounted for the needs of future persons if they could literally pay us back, the argument would be hopeless from the beginning. Yet, one could propose a more ideal benefit: Sure enough, most of us would prefer a future with human beings on the planet to a future without human beings. Although some radical environmentalists present the extinction of the human species as a desirable perspective for planet Earth, this is not a serious option from an ethical perspective. However, when it comes to normative restrictions of individual freedoms of action and freedoms of choice in the name of the "survival of the human species" we enter problematic ethical terrain: Who has to refrain from which use options in order to ensure that future generations still have that use option? How can the legitimate interest to enhance the well-being of all humans living today be balanced against the well-being of people who don't exist yet? Who has the right to determine which needs have to be met today – and which ones have to be compromised for the sake of future generations? Obviously, answers to these questions cannot be treated as matters of Prudence but involve problems of distributive justice as well as of procedural justice.

4.3.5 Ecological Justice

The concept of ecological justice concerns the moral relevance of non-human nature. Although we question the claim of direct moral duties to non-human natural entities we plead for moral consideration of those entities regardless of their utility. With regard to the relationality of humans and nature, respect for nature can be recommended as a reasonable and valuable attitude. However, the framework for such a debate is not Justice but the Good Life.

In chapter one, we argued that the CBD is basically justified with the vital needs of human beings by its reference to the ideal of sustainable development. As we saw above, "to equitably meet developmental and environmental needs of present and future generations" is already a mayor challenge for politics as well as ethics. More often than not it requires trade-offs and hard choices (Mc Shane et al. 2011), either between developmental and environmental needs or between short-term costs and long-term benefits of biodiversity conservation for humans (Chan et al. 2007). Nevertheless, reference to human needs is relatively uncontroversial as a foundation of biodiversity policies. In this paragraph we increase the complexity by not only asking what we owe to our fellow human beings but also what we owe to non-human entities. Hence, we enter the highly contested terrain of non-anthropocentrism.

As yet we have only talked about duties to other human beings with regard to biodiversity. This paragraph addresses the question as to whether human beings have direct moral obligations to non-human beings too – and as to what kind of obligations those could be.

In → section 4.2 we illustrated the prudential argument using the metaphor of the person who's sawing off the branch on which she's sitting. In contrast to this image, the previous paragraphs

drew our attention to the fact that more often than not the persons who are sawing and the persons who are in danger of falling are not identical. In this paragraph we finally come back to a question that is often asked in debates on environmental ethics but has been excluded from our discussion so far: Isn't it morally wrong to cut off a tree's branch even if no human being were sitting on it? In terms of Justice the question is: Do we have duties to the natural world that go beyond human needs, interests and desires? If so, what kind of duties are they? How can they be substantiated? And how can they be balanced against the duties to humans?

Dismissing the idea that nature or non-human entities bear rights that compare to those of human beings does not imply dismisssing the idea of intrinsic value.

"Conscious of the intrinsic value of biological diversity…" are the very first words of the Preamble of the CBD. This prominent commitment is evidence of the idea that biological diversity has value above and beyond human needs and interests, an idea which is wide-spread and shared by many conservationists. But what does that mean? What kind of obligation does such a value constitute? And what exactly is the morally relevant unit here: Biological diversity as such? Or concrete landscapes, ecosystems, populations, species, or individuals? Or the whole biosphere? Or simply nature?

Often it is assumed that "having intrinsic value" is similar to "having moral intrinsic value" – and thus having moral rights. These rights then are understood as constituting moral duties. In chapter one (→ paragraph 1.1.4) we argued that such an understanding brings about inconsistencies in argumentation, which is undesirable if one aims for a rational argumentation.

Dismissing the idea that nature or non-human entities bear rights that compare to those of human beings, however, does not imply dismissing the idea of intrinsic value. Rather, it shows that the language of rights and duties might not be appropriate for the relationship between humans and biological diversity. Having argued that human well-being and biological diversity are inextricably linked, we have favoured an inclusive approach (→ paragraph 1.1.5). **Inclusive humanism**, according to Mary Midgley (1994), does not pursue humanitarian goals at the expense of biological diversity but **includes the well-being of non-human nature into the well-being of humans**. Obviously, this inclusion increases the occurrence of hard choices. These choices cannot be resolved by accrediting "Rights" to humans and "No rights" to non-human entities. Rather, the idea of an inclusive humanism transcends the language of rights and duties (→ box 4.8).

> "Certainly, this wider perspective leaves us with some hard problems. We have to arbitrate all sorts of local inter-species conflicts; we do not have a tidy system of Rights and Duties that will always tell us how to do so." (Midgley 1994: 112)

Box 4.8 An inclusive approach leaves the limits of Justice

To be able to address the intentions of the CBD's commitment to "intrinsic value", we suggest complementing the language of rights and duties with the language of values. In fact, we argue, we do have reason to take good care of biodiversity beyond our direct or indirect use interests. These reasons, however, can be expressed in terms of the Good Life rather than in deontological or utilitarian terms. "Respect for nature" would then be regarded as an ethically recommendable *attitude* rather than a moral *duty*. This approach is the matter of the following section.

4.4 The Good Life: "Because biodiversity is a constituent of our Good Life"

In the previous sections we have shown that the dependence of humans on natural resources provides a strong argument for the conservation, sustainable use and fair sharing of biological diversity for both prudential considerations and reasons of Justice. We have argued that the existential dependence of humans on biodiversity provokes questions of Justice that tend to get hidden behind the collective rhetoric. Neglect of Justice has been presented as the first shortcoming of the prudential argumentation.

This section will now address the second shortcoming of prudential argumentation, or rather: a too narrow concept of Prudence. The importance of biodiversity for human beings may not be restricted to its functional usefulness for human purposes. Concern for biological diversity does not only refer to human survival, but also to human well-being. Well-being here includes much more than mere biological existence. It transports ideas of a truly human life, a life worth living, a life of dignity. In this vein, the Club of Rome stated in appraisal of the report Limits to Growths:

> *"The crux of the matter is not only whether the human species will survive, but even more whether it can survive without falling into a state of worthless existence" (Club of Rome 1972: 200).*

"Human well-being" is a central motive for the conservation and sustainable use of biological diversity and is indeed very often mentioned in biodiversity strategies and communication (examples in → chapter 8). However, the question remains open as to what human well-being exactly is and how it can be measured. All too often it gets narrowed down to economic prosperity for which biodiversity has instrumental value. Opposing this reduction we suggest broadening the concept of well-being into the more encompassing concept of a Good Life. Such a concept can address the value of biodiversity beyond its mere usefulness. Many people value biological diversity for what it is "in itself", not for its usefulness for human purposes. These people often feel uncomfortable with the language of Prudence. We argue that one widespread intuition of an "intrinsic" value of biodiversity, i.e. a value beyond instrumental value, can be addressed within the framework of the Good Life.

In paragraph → 4.4.1 we explain the concept of the Good Life as is was developed in ancient Greek philosophy. We then relate it to the inclusive approach and show how elements of the Good Life can be found in contemporary ideas of deep ecology (→ paragraph 4.4.2). The next paragraph explains how eudemonic intrinsic values are constituents of a Good Life that go beyond merely individual and subjective preferences (→ paragraph 4.4.3). Many strategies refer to aesthetical experiences of biological diversity. With regard to the idea of a Good Life we'll clarify a crucial aspect of aesthetical experience of nature that commonly tends to get neglected: an aesthetic relation to nature is a value in itself that does not need further justification in terms of utility. Quite to the contrary: aesthetics refrains from considerations of utility (→ paragraph 4.4.4). Subjectivity and emotionality are generally considered to be inappropriate arguments for a political strategy. In → paragraph 4.4.5 we elaborate in which sense arguments of the Good Life actually are weak – and why they nevertheless provide strong arguments in communication on biodiversity. Making use of the capability approach, we argue in → paragraph 4.4.6 that the human capability to engage in respectful and caring relationships not only with other humans but also with nature is an important argument in the biodiversity discourse. The right to exercise this capability is able to set boundaries to uses of nature that undermine the realisation of this essentially human capacity.

4.4.1 What do we mean by the Good Life?

The category Good Life refers to those arguments that make substantial claims about human well-being. It is about what it means to lead a truly human life. Arguments of the Good Life result in (reasonable) recommendations rather than in strict obligations.

According to the Greek philosopher Aristotle, happiness is the ultimate goal of human existence. "All human beings strive for happiness". As easily as we might consent to this sentence as difficult it is to declare what exactly "happiness" means. "Happiness" is the common translation for the Greek term *eudemonia*. *Eudemonia*, however, does not mean a merely subjective emotion of "feeling good". It is a more demanding concept that is based on a serious anthropology. Humans are not only characterized by capacities and capabilities they share with all other animals. They bear specific human potentials the realisation of which is the aim of the Good Life. A good life in the Aristotelian sense is a truly human life.

We suggest to broaden the concept of well-being into the more encompassing concept of a Good Life. Such a concept can address the value of biodiversity beyond its mere usefulness.

With regard to biological diversity it is important to realise that eudemonia goes beyond short-sighted hedonistic concepts of happiness. Eudemonia does not mean the momentary pleasure of a transient instant. It includes a long-term perspective. It is the goal of an entire human lifetime. This aspect of entirety has been illustrated by Aristotle with the proverbial swallow that doesn't make a summer (→ box 4.9). The long-term goal of the Good Life can well be missed if one engages only in superficial and self-centred activities that bring about pleasurable sensations.

> Moreover, it will be in a complete life. For one swallow does not make a spring, nor does one day; nor, similarly, does one day or a short time make us blessed and happy. (Aristotle, Nichomachean Ethics, Book 1, chapter 7)

Box 4.9 Happiness needs a long-term perspective

The decisive distinction between Justice and the Good Life is that the former refers to duties while the latter merely formulates recommendations. Justice is about what we ought to do while the Good Life is about what we should strive for in order to lead a decent human life. Justice is about actions, while the Good Life is about attitudes. In this light, arguments of the Good Life are less compelling than arguments of justice. This "weakness" does not mean, however that those arguments are bad arguments. There are good reasons to prefer some attitudes to others even if this preference does not result in a clear-cut framework of rights and duties.

4.4.2 Anthropology and the Good Life

Arguments of the Good Life rest on a demanding anthropology. Only if the ability to refrain from self-interests for moral reasons is acknowledged as an essentially human capability will the development of this capability include consideration of the human and non-human environment.

Arguments of the Good Life display an almost dialectical character: They mediate between concern for one's self and concern for others. Eudemonic arguments are deeply anchored in human capabilities – their justification is thus anthropocentric. The ability to refrain from the realisation of short-sight-

ed self-interests for the sake of long term benefits of a bigger community (of which humans are part) is regarded as an essentially human capability. This very capability constitutes a comprehensive concern for nature that is almost holistic in scope – but not in justification.

Justice is about what we ought to do while the Good Life is about what we should strive for.

In fact, such an inclusive understanding of the well-being of human and non-human entities is the essence of some holistic approaches like Arne Naess' "Ecosophy T". To avoid moving from an 'is' to an 'ought', Naess acknowledges that environmentalists need and do have 'oughts' in their premises. In Naess' terms, this normative premise is the realisation of a self that is deeply interconnected with other beings. Deep ecologists do understand the moral imperative of self-realisation not in egoistic terms but as including the consideration of all other life forms (→ box 4.10).

> Ecosophy T has only one ultimate norm: "Self-Realization!" I do not use this expression in any narrow, individualistic sense. I want to give it an expanded meaning, based on the distinction between a large comprehensive Self and narrow egoistic self […]. This large comprehensive Self (with capital 'S') embraces all the life forms on the planet (and elsewhere) together with their individual selves […]. If I were to express this ultimate norm in a few words, I would say "Maximize (long-range, universal) Self-realization!" (Naess 1995: 80)

Box 4.10 Deep ecology's inclusive concept of self-realisation

Naess acknowledges that such an approach "is not a philosophy in any proper academic sense" (ibid. p. 71). He explicitly distances his perspective from a Kantian perspective that opposes moral actions (that are in accordance with duty) to good actions (that are based on personal inclination). In this tradition, only those actions that we're *not* inclined to do, but do out of *obligation* qualify as "moral". In contrast to such a duty-oriented approach, Naess' aim is not to increase the sense of duty, but to *increase felt inclination* to act according to the needs of other beings. Like Naess' philosophy, many non-anthropocentric approaches are framed in terms of a broader conception of the Good Life than in the strictly normative language of rights and duties.

Increasing inclination for actions that are in accordance with the conservation of biological diversity can be considered a central issue of Communication, Education and Public Awareness with regard to biodiversity. Concern for non-human well-being is framed here not in terms of Justice towards non-humans but in terms of a comprehensive concept of

Successful communication on biological biodiversity not only confronts people with a set of do's and don'ts. It also contributes to raising their inclination to do right rather than wrong.

The Good Life. Successful communication on biological diversity therefore not only confronts people with a set of do's and don'ts. It also contributes to raising their inclination to do right rather than wrong. The category under which we subsume these questions, however, is not Justice but the Good Life.

4.4.3 Constituents of the Good Life are ends in themselves

(Eudemonic) intrinsic value can be attributed to all things that we strive for without any instrumental use-interests. They constitute the Good Life.

What constitutes a good life? What do we (really) need, what do we strive for? Or, from a different angle: the absence of what would make our lives miserable? To answer this question, we have to discriminate between two different kinds of value: instrumental value and value-in-itself.

- All the things we need in order to be able to realise goals that are not related to those things have *instrumental value*: We need them as a means to serve our ends. I value the sharp knife because it is instrumentally valuable for cutting my bread. To me, the knife is not an end in itself, but an instrument. If it breaks, it can be replaced by another that fulfils the same function.

- In contrast, the things that make my life meaningful as such, without serving purposes beyond themselves, can be considered to have *value-in-themselves* - not necessarily *for themselves* (this remains a contested question) but at least *for me*. All the things that we strive for for no other reason than their realisation are constituents of happiness to which we attribute intrinsic value.

Roughly speaking, instrumental value refers to the question of what we have, our goods and chattels, while intrinsic value refers to the question of what we are – individual persons inextricably related not only to particular other persons, but also to non-human beings, places and objects. The latter can be considered constituents of our Good Lives: They cannot be taken from us without diminishing or impoverishing our lives.

Objects that have value in themselves are not good for anything, but just that: good. "What is it good for?" is an inappropriate question with regard to objects that we consider to have intrinsic value. "Intrinsic value", according to Aristotle, is value we attribute to something that is desirable in itself and not for the sake of something else (→ box 4.11).

> Now we call that which is in itself worthy of pursuit more final than that which is worthy of pursuit for the sake of something else, and that which is never desirable for the sake of something else more final than the things that are desirable both in themselves and for the sake of that other thing, and therefore we call final without qualification that which is always desirable in itself and never for the sake of something else. (Aristotle, Nichomachean Ethics, Book 1, chapter 7)

Box 4.11 Intrinsic value

However, there are two notions of "intrinsic value": One can regard non-human beings (or all of biodiversity) as being intrinsically valuable for human beings *or* as being intrinsically valuable for themselves. While value of the first kind has to be named "eudemonic intrinsic value" only the latter notion is generally acknowledged as intrinsic value in the strict sense, meaning "moral intrinsic value".

In → section 4.3.5 we explained the difficulties one encounters in defending this notion of moral intrinsic value. For epistemological reasons (How can we *recognize* intrinsic value?) as well as for lack of consistence (How can we respect all living beings equally?), talk about moral intrinsic value tends to be avoided in official biodiversity communication. At the same time, the intuition that biodiversity has value beyond its mere utility is widely spread among the population. To address this intuition, communication about concepts of the Good Life offers better opportunity than the framework of Justice. It opens a space to debate competing concepts of humans' place within nature without bearing the burden of proof necessary for the foundation of binding norms.

4.4.4 Aesthetic value

Aesthetics may not be reduced to the mere consumption of natural beauty. Rather, 'aesthetic experience' denotes a particular way of relating to nature that is free from any instrumental interests. The aesthetics of nature is paradigmatic; it illustrates the moral relevance of humans' relatedness to nature.

One important argument that may illustrate the difference between instrumental and intrinsic value is the aesthetic argument. The concept of Total Economic Value represents aesthetic value as a sub-category of use values (recreation, spiritual/cultural well-being) (→ figure 3.1). Similarly, the MA classifies "aesthetic enjoyment" as a "cultural service" provided by biodiversity and ecosystems. In many documents "aesthetic" is used as a synonym for "pleasant". For example, the MA speaks of "aesthetically pleasing landscapes" (MA 2005 BD: 36). This widespread use of the term "aesthetic" has to be rejected as too narrow.

The enjoyment of natural beauty is but one "aesthetical" experience among many others. There's also awe, wonder, humility, execration or sublimity in the face of nature. "Aesthetic" is not a quality of natural entities like landscapes or ecosystems. Rather, "aesthetic" denotes a specific mode of experience, namely an experience explicitly not interested in any kind of use or usefulness. Disinterestedness is considered the central feature of aesthetic experience.

Aesthetic experience of nature, thus, is not a "use" of nature, and biological diversity is not an aesthetic "resource". The concept of use implies an instrumental relation: you use something as means to an end. In contrast, the aesthetic mode of experiencing nature is not an instrumentally guided activity. It is an activity that is of intrinsic value to humans (Krebs 1999). In her foundational book "Ethics of nature" Angelika Krebs (1999) rejects the widespread instrumentalist misconception of aesthetics (→ box 4.12):

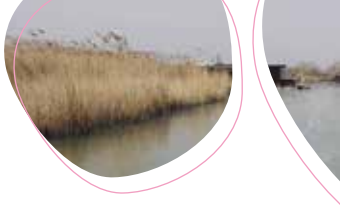
> "Aesthetic contemplation is a universal basic option of a good human life. It is of eudemonic intrinsic value. In other words, it is something we engage in for its own sake. […] To conceptualise nature as a means, a resource, or an instrument for aesthetic contemplation […] misses a central element of the grammar or phenomenology of aesthetic contemplation. In aesthetic contemplation, we value entering into a relationship with the object that is not instrumentally guided." (Krebs 1999: 44-45)

Box 4.12 Aestetic value is not an instrumental value

According to Anne Kemper (2001) one key to the understanding of the aesthetic experience of nature is the bodily constitution of human beings. We not only *have* a body ("Körper"), we also *are* a body ("Leib"). This dual essence of human being – being deeply cultural and deeply natural at the same time – is the foundation of an inclusive approach to ethics. And it can be illustrated par excellance with the aesthetics of nature. Unlike the aesthetic experience of art, the specific of the aesthetics of nature is that in experiencing nature "*we feel ourselves touched and moved in our own natural dimension*" (Kemper 2001: 73, our translation). A central feature of the aesthetic attractivity of nature is that it is beyond our command – much like our own nature is beyond our command.

Aesthetic experience of nature is not a "use" of nature, and biological diversity is not an aesthetic "resource".

If we root the idea of biodiversity's intrinsic value in the aesthetic experience of nature it becomes clearer what the inclusive approach to ethics means to emphasise: That bodily as well as emotional relations between humans and nature are morally significant. While refraining from advocating a physiocentric justification, the notion of aesthetics of nature nevertheless allows us to express the experi-



ence of a nature beyond human command without drawing on contested metaphysical assumptions. The concept of intrinsic aesthetic value thus builds a bridge between a concept of use value essentially geared to the usefulness of nature on the one hand and the category of moral instrinisc value completely independent of any human valuation whatsoever on the other.

Arguments of the Good Life have a high degree of personal conviction but a low degree of compulsion.

Please note, however, that the intuition of intrinsic moral value is not captured by aesthetic value. Being inextricably related to human experience, intrinsic aesthetic value of biodiversity differs from moral intrinsic value in constituting duties to human beings, not duties to biodiversity. "*The conservation or cultivation of what is aesthetically attractive in nature is, therefore, something morally owed to the contemplators but not to nature itself*" (Krebs 1999: 46). This is why aesthetic value is generally counted as an anthropocentric argument.

4.4.5 Why the Good Life is a less compelling argument

Arguments of the Good Life face three limitations:

1. **Respect for nature as a personal attitude does not constitute direct duties to non-human entities.**
2. **Matters of Justice are insufficiently captured in terms of the Good Life.**
3. **Ideas of the Good Life are based on contested anthropologies.**

Ideas of the Good Life typically refer to the adoption of certain attitudes. They are generally concerned with what we are, not with what we have. A Good Life is therefore not determined by certain goods but by a specific mindset that disposes a person to certain actions. Aristotle called such attitudes that are voluntarily adopted and exercised "virtues".
The call for a turn from "having" to "being" has been a central issue of ecologically motivated criticism of society since the 1970's (paradigmatic for this call is Erich Fromms' 1976 book "To Have or to Be?"). The old adage "money can't buy happiness" also formulates the primacy of being over having. In a similar vein, the report "Sustainable Germany" (Wuppertal Institut 1995) coined the slogan "living better instead of having more" ("Besser leben statt mehr haben").
The LOHAS movement also articulates its engagement for more sustainable consumption in the motto "From having much to living better" ("Vom viel haben zum besser leben").

Hence, arguments of the Good Life can be sure to meet broad approval. Their articulation is more in accordance with the motives and attitudes of conservationists than merely utilitarian arguments are.
If we regard authenticity and veracity as basic fundamentals of communication, arguments of the Good Life are superior to narrow prudential arguments for many actors.

On the other hand, arguments of the Good Life are bound to voluntary commitments. The commitment to respect nature is a laudable attitude, though not a moral obligation. In the framework of virtue ethics, the decision for or against particular actions with regard to biological diversity arises from an attitude that a person has voluntarily adopted. He or she adopted this attitude because (s)he is convinced (s)he will live better on the basis of such an attitude. This conviction is based on good reasons. With regard to its appeal to others, however, the bond to a personal attitude limits the scope of arguments of the Good Life.

Hence the framework of virtue ethics meetst three serious limitations:

1. It is not possible to turn personal convictions into rules for everybody without further ado. My personal conviction that treating non-human natural entities with a certain respect contributes to my good life cannot justify binding norms for others. I can only make demands on others by showing that inconsiderate handling of biological diversity violates moral rights. In this regard, arguments of the Good Life fall short of the aims of defenders of animal rights or rights of nature. Arguments of the Good Life can only formulate duties to humans who consider biological diversity an important contribution to their good lives, not to biodiversity as such.

2. With regard to the issues of global and environmental justice addressed in the CBD, arguments of the Good Life are insufficient. The question as to how costs and benefits of the conservation and sustainable use of biological diversity should be distributed is not a matter of individual personal decision but a matter of justice.

3. The concepts of the Good Life is rooted in a contested anthropology. To be able to discriminate between preferences, i.e. to keep apart justified from unjustified interests, we need a concept of what it means to be truly "human" and what human's place in nature is. The idea of nature as a cosmos is out-dated and has been replaced by the image of a nature that is in permanent evolution. The traditional anthropology of humans as "*animal rationale*" exists side by side with the image of the *homo oeconomicus*. Where as optimisation of individual benefit is the overarching aim of the latter, the general orientation of the first is to bring to perfection those traits in human beings that distinguish them from non-human animals, namely the ability to make rational decisions. Note, however, that this philosophical conception of rationality is far broader than the narrow economist conception of use optimisation.

Thus, arguments of the Good Life have a high degree of personal conviction but a low degree of compulsion. They are grounded in a contested normative anthropology. And they constitute attitudes rather than actions. From a normative perspective, attitudes are less relevant than actions. In the end of the day, if a species is extinct, it doesn't matter if we killed the last specimen with a good or a bad conscience. What matters is that the species is gone forever. The last paragraph therefore asks if and how the primarily personal conviction that a respectful relationship with nature is preferable to an exploitative attitude can constitute binding norms.

4.4.6 Can the Good Life constitute policy duties?

No one can be obliged to lead a good life. Following Nussbaum we suggest, how ever, that it can be regarded as a duty of politics to ensure the possibility of the realisation of a good life.

The relation and connection between Justice and the Good Life is a contested field of philosophical debate. For obvious reasons, the prevailing dissensions cannot be resolved within this report. Seeking arguments that link the good life of individuals to duties on the political level, this section essentially draws on the capability approach of philosopher Martha Nussbaum and economist Amartya Sen. In a nutshell this approach claims that humans have specific capabilities the realisation of which makes their lives meaningful. Obviously, no individual has an obligation to lead a good life. Nevertheless, there are good reasons for prefering a meaningful and deep life to a futile and shallow life.

Following an argument of Aristotle, the capabilities approach claims that individuals have a right to strive for a good life, even if they do not have an obligation to do so. The government's role, then, is to ensure the possibility of the realisation of this right.

Politics thus has an obligation to guarantee that individuals have access to all the things they need to be able to strive for a good life. What is a liberty on the individual level thus becomes a duty on the institutional level. In this vein, the Constitution of the United States, for example, names the "pursuit of happiness" as one of the unalienable rights of every human being (→ box 4.13).

> "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just Powers from the consent of the governed" (US Constitution 4.7.1776, www.usconstitution.net/declar.html)

Box 4.13 The right to the pursuit of happiness in the US constitution

In her work, Nussbaum (2000) tentatively names the most important capabilities that are constituents of a good human life (→ table 4.1). Among them are, besides life, health and bodily integrity, several capabilities that have an obvious reference to biological diversity and the aims of conservation, sustainable use and fair sharing of benefits: "being able to have attachments to things and people outside ourselves" (5), "being able to live with and toward others, to recognize and show concern for other human beings (7), "being able to live with concern for

Table 4.1 Central human functional capabilities according to Nussbaum

1	Life. Being able to live to the end of life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.
2	Bodily Health. Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.
3	Bodily Integrity. Being able to move freely from place to place; having one's bodily boundaries treated as sovereign, […]
4	Senses, Imagination and Thought. Being able to use the senses, to imagine, think, and reason – and to do these things in a "truly human" way […].Being able to search for the ultimate meaning of life in one's own way. Being able to have pleasurable experiences, and to avoid non-necessary pain
5	Emotions. Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. […]
6	Practical Reason. Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience.)
7	Affiliation. A. Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another and to have compassion for that situation: to have the capability for both justice and friendship. […] B. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others.
8	Other species. Being able to live with concern for and in relation to animals, plants, and the world of nature.
9	Play. Being able to laugh, to play, to enjoy recreational activities
10	Control over One's Environment. A. Political. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association. B. Material. Being able to hold property (both land and movable goods), not just formally but in terms of real opportunity; and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure.

and in relation to animals, plants, and the world of nature" (8) and "being able to participate effectively in political choices" (10).

In applying the capabilities approach to biodiversity it can be said: Every person is "able to live with concern for and in relation to animals, plants, and the world of nature". According to Nussbaum this would mean that every person also has the right "to live with concern for and in relation to animals, plants, and the world of nature". This does not, however, mean that every individual has a moral duty "to live with concern for and in relation to animals, plants, and the world of nature". Nevertheless it can be argued that politics has the responsibility to ensure that every individual can exercise this right. There is no obligation for the individual to actually lead a good life but there is an obligation for the state to make it possible for individuals to lead good lives according to basic human capabilities.

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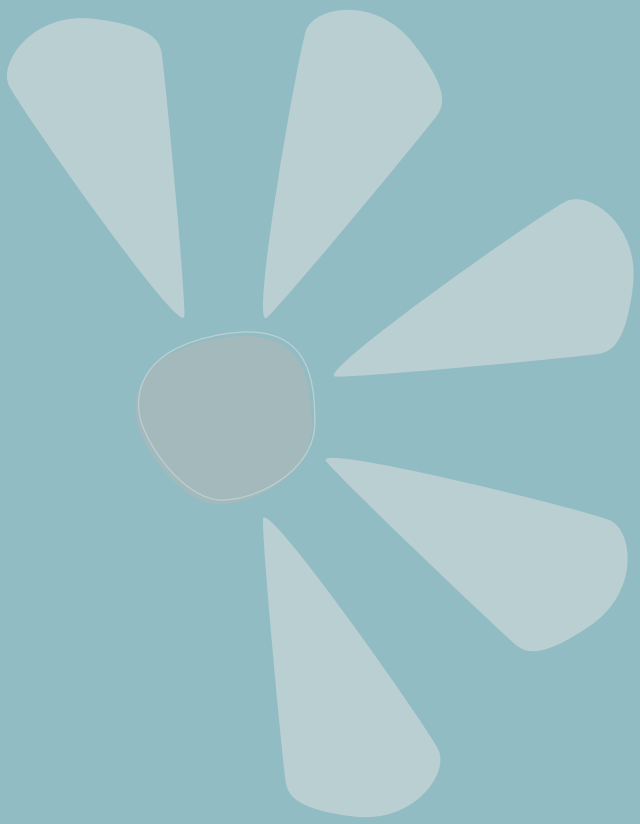
PART 2 ETHICAL REASONING IN SELECTED EUROPEAN BIODI

VERSITY STRATEGIES



In part one of this report, we explained the theoretical foundation of our study. Embracing a pluralist approach, we have argued that all reasons brought forth in favour of biodiversity policies are to be assessed on the basis of an ethical analysis. Ethical reasons, we have shown, should not be restricted to arguments of intrinsic value. In avoiding the pitfalls of either-or-approaches to ethics (either deontological or consequential, either anthropocentric or biocentric, either duties or virtues) we have favoured an inclusive attitude. By using the triad of Prudence, Justice and the Good Life as an analytical tool, we have pointed out possible achievements and shortcomings of the different approaches.

This second part will now apply this analytical tool to various European national biodiversity strategies in order to illustrate the categories and to deepen the understanding of the relevance of ethics for the respective strategies.

Under closer scrutiny, all strategies analysed reveal all types of argumentation. To present examples for each kind of argument in every single strategy would be a highly redundant and rather tedious endeavour. Instead, we will focus on specific, yet common sets of arguments and illustrate their relation to the triad of Prudence, Justice and The Good Life.

As an empirical background, → chapter 5 describes each country's specific approach to a biodiversity strategy and points out commonalities and differences between the different countries.

Departing from the title of the European biodiversity strategy, "Our life insurance, our natural capital", → chapter 6 argues that the economic framing of biodiversity arguments is prone to misunderstandings. It scrutinizes the concept of ecosystem services as one very prominent kind of prudential argumentation and evaluates its contribution to biodiversity communication.

Picking up the motto of the 2010 EU biodiversity campaign "We are all in this together", → chapter 7 deals with the tendency to hide responsibility behind the collective subject "we". The chapter shows how concerns of global, intertemporal and ecological justice stay in concealment behind this expression.

With reference to the vision of the Aichi targets "Living in harmony with nature" → chapter 8 shows that most strategies more or less implicitly invoke a concept of the Good Life. Examples from different countries are presented and discussed.

Each of these chapters draws conclusions for communication that are summarized in → **chapter 9**.

→ **Chapter 10** presents results of our preliminary survey of available European national biodiversity strategies with regard to communication and ethics. Basic features of all strategies are displayed in tables which represent a synopsis of the different approaches with regard to structures, aims and contents of current European biodiversity strategies.

5 GERMANY, AUSTRIA, SWITZERLAND AND THE EU: THE DESIGN OF THE FOUR STRATEGIES ANALYSED

Article 6 of the Convention on Biological Diversity obliges each contracting party to develop a national biodiversity strategy. For our study, we have analysed four such strategies in more detail: the German, the Austrian, the Swiss and the European biodiversity strategies and their accompanying communication. These strategies were chosen for mostly pragmatic reasons. Germany, Switzerland and Austria have a long standing tradition of collaboration with regard to nature conservation. The German Federal Agency for Nature Conservation (BfN), the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (Life Ministry) and the Swiss Federal Office for the Environment (FOEN) sustain a close, tri-national cooperation. When the previously prepared report on ethical foundations of the German biodiversity strategy proved to be illuminating for practitioners, it was decided to expand the scope of analysis to the strategies of those partners. The European strategy, emerging at the same time this study began, was integrated into the analysis with the aim to further stimulate debate about ethical aspects of biodiversity conservation within Europe.

This chapter sketches the design of the selected strategies. The national portrayals are based on presentations given by representatives of the strategies at the dialogue forum in Stuttgart in March 2011 (→ Introduction). The representation of the European process follows the account of the Regional Director Europe of the IUCN. The sections offer an overview over the strategies with regard to their history, involved protagonists, structure, contents and implementation. The presentation of these aspects is complemented with available online-resources regarding the strategy.

5.1 Germany

This section is based on the presentation by Jonna Küchler-Krischun, who is responsible for the development of the German biodiversity strategy in the Federal Ministry for the Environment (BMU, Division N I 1). She co-edited the German strategy together with Alfred M. Walter.

5.1.1 Origin and status

After ratification of the Convention on Biodiversity in 1993, a National Biodiversity Strategy (GNBS) was initiated in 2003 and finally adopted in 2007.

Germany ratified the CBD in 1993 and the Federal Ministry for the Environment (BMU) was responsible for its implementation. After several initiatives taken by the BMU to develop a national biodiversity strategy failed, the start of a national sustainability process in 2002 provided a window of opportunity for a biodiversity strategy. The sustainability process finally led to the formulation of a national sustainability strategy "Perspectives for Germany. Our strategy for a sustainable development" (Die deutsche Bundesregierung 2002). This strategy was adopted by the German government in 2002. In this context, it was possible for a new development process aiming at a national strategy on biological diversity to be initiated by the BMU in 2003. As a result, in 2005, Germany's newly-elected government anchored the intention to develop a national biodiversity strategy in its coalition agreement for the election period 2005-2009 (CDU/CSU; SPD 2005). In the following time, the BMU elaborated Germany's first National Biodiversity Strategy (GNBS 2007), which was adopted by cabinet decision in November 2007.

Table 5.1 Milestones in German biodiversity policy

1993	Ratification of the CBD
1998	1st CBD National Report
2001	2nd CBD National Report
2003	Process of developing a German national strategy on biological diversity starts
2005	3rd CBD National Report
2007	The "National Biodiversity Strategy" is adopted by the German federal government
2010	4th CBD National Report
2011	Ratification of the Nagoya Protocol

5.1.2 Who was involved?

The strategy was developed under the auspices of the BMU. It comprised a comprehensive process of communication and participation that included a broad range of stakeholders.

The coordination of the development of a transsectoral strategic paper is a complex process. In Germany, the BMU coordinated the process in close cooperation with the Federal Agency for Nature Conservation (BfN). Debates among various specialists within the political institutions on the one hand, as well as with external experts on the other hand characterize the process. Permanent mutual feedback was a key feature of the whole development process, which clearly illustrates that the German NBS is not a sectoral strategy of the BMU, but rather a comprehensive strategy of the German government:

- Extensive **internal debates within the BMU and the BfN** took place in a working group called "AG Vision". Six members from several departments of the BMU, the BfN and the Federal Environment Agency (UBA) were part of this visionary circle. For two years, they continuously developed

concrete visions for the conservation of Germany's national biodiversity, its sustainable use and the globally fair sharing of benefits. Furthermore, they discussed suggestions and recommendations made by internal and external experts and protagonists in a permanent feedback.

- A project team within the BMU then coordinated the **internal discussion of first drafts with other departments** concerned. These were in particular the Federal Ministries of Agriculture (BMELV), Transport (BMVBS), Economics (BMWi), Research (BMBF) and Health (BMG). However, as the National Biodiversity Strategy is a strategic paper of the German government, basically all departments were concerned and included in the process. Additionally, the project team coordinated the strategy with all 16 federal states (Bundesländer).

- **External supervision** was secured from the beginning since external experts were "consulted at a very early stage in the process" (GNBS 2007: 7). For instance, from 2004 to 2005 seven workshops were conducted with participation from all relevant sectors (science, environment, conservation, land use, politics, and gender). In sum, 26 scientific experts and representatives of 38 environmental and conservation associations as well as 58 land use organisations were integrated in the process.

5.1.3 Structure and contents

Addressing several groups of protagonists, the German National Biodiversity Strategy describes Germany's current role and situation in biodiversity conservation on both the local and global scale. In its core, it formulates visions, action targets and concrete measures for better biodiversity conservation.

The German National Strategy on Biological Diversity itself is a document encompassing 180 pages. It is richly illustrated and written in a generally understandable style. It addresses various stakeholders like politicians, public authorities, NGOs, science and research as well as the interested public. However, its volume potentially impedes reception by the general public. The strategy is structured in eight main chapters (→ Table 5.2).

As a strategic paper, it does not only formulate visions, quality targets and action targets; beyond that, it substantiates these targets by 430 concrete measures. It furthermore emphasizes coherence with the UN Millenium goals and the Millenium Ecosystem Assessment (MA) and describes examples of best practice.

Table 5.2 Structure of the German National Strategy on Biodiversity (GNBS 2007: 8)

National Strategy on Biological Diversity			
Chapter	**Title**	**Content**	**Pages**
Preamble	Preamble	Introduction and outline	6-8
A	The current situation	Outlines the reasons for conserving biological diversity from different points of view, highlights the global and national dimensions of the threat to biological diversity, and describes the efforts undertaken to date and the areas where further action is needed	9-25
B	Concrete Vision	Formulates and sheds light on the Government's visions, quality targets and action targets concerning the major national biodiversity-relevant topics	26-61
C	Action Areas	Translates the action targets into 430 concrete measures and allocates these to the various government and social players	62-94
D	Innovation and Employment	Outlines the potential afforded by biological diversity in terms of economic development, innovation and jobs	95-100
E	Eradicating poverty and promoting justice	Explains the correlations between biological diversity and implementation of the Millennium Development Goals	101-106
F	Implementation of the Millennium Ecosystem Assessment in Germany	Outlines implementation of the Millennium Ecosystem Assessment for Germany as commissioned by the United Nations	107-110
G	Flagship projects	Provides details of concrete projects which exemplify the conservation of biological diversity while giving equal consideration to ecological, economic and social aspects	111-120
H	Reporting, indicators and monitoring	Outlines future regular reporting on target achievement. The preliminary set of indicators was concretised and supplemented in 2010 (German Federal Ministry for the Environment, Nature COnservation and Nuclear Safety (BMU) 2010: 701).	121-139
I	Appendix	Lists the resolutions of the various Conferences of the Parties to the Convention on Biological Diversity, the EU biodiversity strategy (1998) and EU action plans. Glossary.	140-180

5.1.4 Implementation

Conservation and sustainable use of biodiversity have to compete with other political and/or economic goals. To enhance cooperation by all relevant protagonists a comprehensive process of dialogue has been installed.

As we have seen above, the development of the GNBS was a complex process. Since successful implementation requires actions of all governmental and non-governmental actors, the BMU initiated an extensive implementation process in 2007. In the following, obstacles as well as achievements with regard to the implementation are briefly outlined.

First of all, the NBS, much like other strategies, must be understood as a *political* paper. This fact already implies compromises and tradeoffs that were made during the formulation process. Consequently, even though the German NBS is a cross-sectoral strategy of the entire government, priorities and objectives inevitably diverge between different ministries in some parts. Even if there's approval of objectives, different concepts of how to achieve them exist. Additionally, unsettled responsibilities of authorities (federal, state or communal) complicate the implementation process. Another relevant obstacle is lack of temporal, human and financial resources. Shifting priorities on the current political agenda may also not be conducive. Finally, "traditional" basic conflicts between land users (forestry, fishery and agriculture) and conservation cannot easily be resolved in favour of implementing the NBS. Lately, conflicting objectives of the biodiversity strategy and the strategy on mitigation of and adaptation to climate change (e.g. offshore wind plants or biofuels) have increasingly interfered with the implementation of the GNBS.

Nevertheless, the implementation process has been successfully initiated. Above all, in 2011 the BMU launched an open-ended promotional programme, the "Bundesprogramm Biologische Vielfalt", which furthers implementation with a yearly budget of 15 Million Euros. In the course of a comprehensive communication concept, a dialogue process has been successfully established: Multiple conferences, workshops and panels for different groups of stakeholders have been performed on national, federal, regional and local level and on various topics. Special studies, e.g. on public awareness (BMU 2010a), facilitate implementation and reports (BMU 2010b) allow for control of its success. Furthermore, a platform was set up on the internet (www.biologische-vielfalt.de). It provides all relevant information and helps to coordinate activities. Last but not least, various non-governmental organisations and research associations are contributing to the realisation of the strategy's targets.

5.1.5 Online Resources

Germany's National Strategy on Biodiversity (2007)
can be downloaded in English at:
www.bmu.de/files/english/pdf/application/pdf/broschuere_biolog_vielfalt_strategie_en.pdf

The original German version is available for download at:
www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_biolog_vielfalt_strategie.pdf

Website of Germany's Clearing House Mechanism
for the implementation of the CBD:
www.biodiv-chm.de/en

The BfN (Federal Agency for Nature Conservation) provides broad information on biodiversity, the NBS, its implementation and the promotional programme for the public, actors and stakeholders on:
www.biologische-vielfalt.de (in German only)

5.2 Austria

This section is based on the presentation of Gabriele Obermayr. As a member of the Austrian Federal Ministry of Life she has accompanied the development process of a national biodiversity strategy from the very start. She is head of the Austrian National Biodiversity Commission. Her manuscript has been translated and edited to fit into the common structure of this chapter.

5.2.1 Origin and status

After the ratification of the CBD in 1994, a first National Biodiversity Strategy was developed by 1997. In 2005, a revised and updated strategy was resolved.

Austria ratified the CBD in 1994. As legal jurisdiction in Austria is very complex, Austria's Department of the Environment founded a trans-sectoral **National Biodiversity Commission** in 1995. The responsibility for the implementation of the CBD in Austria was placed on this Commission, which hence coordinated the development of Austria's first National Biodiversity Strategy. The first National Biodiversity Strategy was adopted by the National Biodiversity Commission in 1997 and acknowledged by the Austrian Council of Ministers.

The National Biodiversity Commission was also responsible for the evaluation and further development of the Strategy. During 2001 and 2003, the strategy was therefore evaluated by Austrian's Federal Environment Agency with regard to the implementation of measures laid out in the strategy. On the basis of this evaluation, the document was revised, updated and resolved in 2005 as "Advanced Implementation Strategy for the Convention on Biological Diversity Strategy". In addition, the National Biodiversity Commission resolved to draw up single action plans for implementing the strategy in special areas which were to include concrete terms for measures to be taken, protagonists responsible for such measures, time schemes, etc. An initial action plan of this kind was presented for the field of "alien species" (neobiota) in 2005. In 2007, the National Biodiversity Commission agreed on national targets for reaching the 2010 Biodiversity Target in Austria. In doing so, the old demand for concrete, quantifiable and qualifiable biodiversity targets was taken into account. After the EU published its new EU Strategy in May 2011, the National Biodiversity Commission is now analysing and discussing which adjustments and revisions need to be made to adapt the Austrian strategy to the European strategy.

Table 5.3 Milestones in Austrian biodiversity policy

1995	Ratification of the Convention on Biological Diversity (CBD)
1995	Formation of the National Commission on Biodiversity
1997	1st CBD National Report
1998	First Implementation Strategy for the Convention on Biological Diversity Strategy acknowledged by the Austrian Council of Ministers (ANBS 1998)
2001	2nd CBD National Report
2001, 2003	Reports on the evaluation of Austrian Biodiversity by Austrian's Federal Environment Agency
2005	Revised "Advanced Implementation Strategy for the Convention on Biological Diversity Strategy" (ANBS 2005)
2005	3rd CBD National Report
2007	Summary of the "Advanced Implementation Strategy for the Convention on Biological Diversity Strategy" is published
2010	4th CBD National Report

5.2.2 Who was involved?

Austria's national biodiversity strategy was mainly drawn up by the National Biodiversity Commission, an interdisciplinary panel of governmental and non-governmental participants under the chairmanship of the Ministry of Environment.

In Austria, as depicted above, the National Biodiversity Commission (NBC) was established as a panel to coordinate all concerns pertaining to the Convention on Biodiversity with stakeholders, which also included the establishment of a platform for communication and exchange of information in the field of biodiversity. Members of the NBC are:

- Representatives of federal ministries concerned (Environment, Agriculture, Foreign affairs, Transport, Finance, Science, Economy) and of the governments of the nine Austrian states
- Representatives of research and science
- Lobbyists representing agrarian and forestry landowners, employees and employers
- Major Austrian NGOs dedicated to nature conservation and environmental protection

It meets about 2-3 times per year and is subdivided into smaller groups that work on different specific topics. Its working principles are openness, transparency, participation and consensus. The Commission's resolutions inform the political process.

To draw up the National Biodiversity Strategies in 1998 and 2005, the NBC, supervised by the Ministry of Environment (Life Ministry), organised a participative process with its members. Drafts were exchanged with various stakeholders and their comments were incorporated. Thus the first Biodiversity Strategy (1998) constitutes, as it were, a project carried out mutually by all relevant groups of protagonists in the area of biodiversity which have developed the goals and measures necessary for implementing the Convention on Biodiversity in their area (ANBS 1998). The development process of the second Strategy (2005) was more expert-oriented in order to integrate current international resolutions, but still all stakeholders of the Biodiversity Commission were integrated into the process (ANBS 2005).

5.2.3 Structure and contents

The Austrian Advanced Implementation Strategy for the Convention on Biological Diversity outlines the current global and local situation in biodiversity conservation as well as basic principles for the implementation of the strategy. It concentrates on main fields of action and the formulation of action targets (without quantification) and concrete measures for biodiversity conservation in these fields. A short summary of the Austrian Strategy is available and addresses the broader public.

The Advanced Implementation Strategy for the Convention on Biological Diversity Strategy (2005) is 90 pages long and its design does not aim at a broader public. However, it is much more comprehensible than a legalist document. It is not available in English. Primary addressees are all stakeholder groups represented in the National Biodiversity Commission, i.e. the ministries concerned and all other organisations and individuals working in fields of biodiversity protection, conservation and use. The Advanced Implementation Strategy is divided into five chapters which are outlined in Table 5.4. An abstract of 28 pages sums up main aspects and messages of the National Strategy in an attractively illustrated way and as such it addresses the broad public (ANBS summary 2010).

Table 5.4 Structure of the Austrian National Strategy on Biodiversity (compare ANBS 2005)

Advanced Austrian Strategy for the Implementation of the CBD			
Chapter	**Title**	**Content**	**Pages**
1	Introduction	• Contains definitions and outlines the global and local context of biodiversity threat and historical development of the Strategy. • Explains international, European and regional strategic papers, directives and conventions relevant for biodiversity conservation • Describes basic principles (like the precautionary principle) to be taken into account in the development of measures and management methods for the conservation and sustainable use of biodiversity and the concrete implementation of this strategy, respectively.	5-11
2	Main courses of action	Besides the 2010-target to stop loss of biodiversity in Austria, focal action points are described: • Preservation of biodiversity • Sustainable use of biodiversity • Research and Monitoring • Cooperation in the sense of Austria taking responsibility for global biodiversity In total, more than 150 goals (in general nonquantitative) and 250 measures are defined.	12-77
3	Appendix	Provides detailed and specific information, targets and measures pertaining to sustainable agriculture and husbandry. They were part of the first Biodiversity Strategy and are integrated in order to provide a basis for the development of an action plan in the field of agriculture.	78-85
4	Requirements for future action plans	Lists criteria for the selection of topics for separate action plans as well as requirements with regard to form and content.	86
5	Further Information	References, Literature, Glossary, Links.	87-94

5.2.4 Implementation

The implementation process is coordinated by the National Biodiversity Commission. Implementation is hampered by the fact that a strategy is a rather weak political instrument and by lack of financial resources.

The implementation process of the Austrian Biodiversity Strategy is, just like all other actions with regard to the CBD, coordinated by the National Biodiversity Commission. As mentioned above, action plans for implementing the strategy were drawn up (or are planned to be established) in specific fields. Nevertheless, concerning the question as to which weak points the national biodiversity strategy evidences, several aspects can be named.

First of all, the national strategy is a weak political instrument because it lacks an "obligation to implement". Hence, the implementation of the strategy does not always have priority for those protagonists responsible for doing so. Top priority regarding nature conservation is mostly given to implementation of the EU nature conservation directives. Regularisations expanding that scope are neglected. In general, there is not only a lack in awareness of the strategy among important protagonists. In regard to the general public and society at large one must recognize that loss of biodiversity is not generally perceived as an urgent environmental problem in Austria. This may be due to the complexity of the concept "biodiversity", though another problem might outweigh the first explanation: Additional financial means for implementing the strategy are not provided and all activities have to be performed within the framework of existing budget allocations. With regard to financial means, the strategy explicitly points out that "aims and measures mentioned in this strategy do not establish precedent for the allocation of additional financial means" (ANBS 2005: 8). Additionally, structural problems like the lack of by-laws for the National Biodiversity Commission impede implementation and the absence of a nation-wide system for monitoring biodiversity constrains assessment of what has been achieved.

Major successes of the National Strategy include, on the one hand, widespread involvement of all responsible protagonists in the process of drawing up and advancing the strategy. Hereby, the principle of creating a sense of "ownership" has been followed in an exemplary fashion. The strategy also forms an important foundation and line of argumentation for formulation and approval of project applications submitted for funding by administrative agencies, scientific endowment funds, LIFE programs, rural development programs etc. Not least, the national biodiversity strategy has helped boost initiatives aimed towards heightening awareness for the importance of biodiversity and preserving it. One example is the national biodiversity campaign "vielfaltleben" under the auspices of the Life Ministry, the largest nature and species conservation campaign ever carried out in Austria.

5.2.5 Online Resources

The first Austrian strategy (1998) is available in English on:
www.cbd.int/doc/world/at/at-nbsap-01-en.pdf

The revised Austrian Strategy 2005 is available in German and can be downloaded at:
www.biologischevielfalt.at/fileadmin/inhalte/chm/pdf-files/WeiterentwickelteOEsterreichische_Strategie_Oktober_2005.pdf

A short summary (in German) of the second Strategy is available on
www.vielfaltleben.at/article/articleview/81020/1/26631

Website of the Austrian Life Ministry:
www.lebensministerium.at/en

Webpage of Austria's Clearing House Mechanism:
www.biologischevielfalt.at/en/ (these websites are in English serviced insufficiently)

Platform for information and communication of the national biodiversity campaign "vielfaltleben":
www.vielfaltleben.at (in German only)

5.3 Switzerland

When the study at hand was conducted, the Swiss biodiversity strategy was still under construction. This gave us the great opportunity to analyse a nascent strategy. However, the on-going development of the strategy also required permanent revision of our results with regard to the progress of the document. This section is based on a joint presentation made by Michael Herrmann and Andreas Bachmann at the Dialogforum Ethik about the first draft of the strategy, which failed the interdepartmental consultation process. Michael Herrmann is the external project coordinator of the biodiversity strategy for the Federal Office for the Environment (FOEN). Andreas Bachmann is a philosopher and responsible for ethical questions in the FOEN's biotechnology section. In addition to their presentation, we conducted an interview with both partners in June 2011 that was based on the second draft of the strategy. After interdepartmental consultation, the public consultation ("Vernehmlassung") was opened in September 2011. This was the first publicly available document that we could use as a source of quotes. When the strategy was finally adopted in April 2012, we had to make some changes with regard to ethics in our report as well.

5.3.1 Origin and status

Switzerland ratified the CBD in 1994. In 2008, the Swiss parliament integrated the development of a national biodiversity strategy into the agenda of the legislative period 2007-2011. The strategy was adopted by the Swiss Federal Council in April 2012. A short version addressed to the general public is available.

After ratification of the CBD in 1994, the development of a national strategy was first deemed unnecessary. With regard to already existing legal instruments for the conservation of valuable habitats and the advancement of endangered species the country was considered to be well equipped to address biodiversity issues and therefore the view was that a special strategy on biological diversity was not called for. With this argument, a parliamentary initiative for the development of a national biodiversity strategy was rejected in 2005 (Klaus 2006). A study for the FOEN revealed that biodiversity loss in Switzerland was not considered an urgent problem by the majority of the population (Bierl et al. 2010). However, concerned scientists as well as organisations active in civil society from the very beginning advocated a biodiversity strategy on the national level (Suter et al. 1998). In 2008, the parliament's decision to set up a national strategy for the conservation and advancement of biodiversity was incorporated into the programme of the legislative period 2007-2011. The strategy was adopted in April 2012. The long version and a short version for the general public are available for download (→ paragraph 5.3.5).

5.3.2 Who was involved?

The Swiss biodiversity strategy was drawn up by the Federal Office for the Environment (FOEN). After extensive internal and external consultation processes, the strategy was adopted by the Federal Council.

After the parliamentary decision, the Federal Department of the Environment, Transport, Energy and Communications (DETEC) commissioned its Federal Office for the Environment (FOEN) to work out the Swiss strategy. In February 2009, an expert group of representatives of federal offices, cantons and experts from science and NGOs gathered for a first meeting in Bern to discuss basic features of the paper. An overall target and four cornerstones of the future strategy were passed by the government in July 2009. A first draft was then written by the FOEN in 2010 and sent for consultation to other federal offices within the DETEC (e.g. Energy, Transport, Spatial Development), as well as to other departments and their offices concerned (e.g. the Federal Department of Economic Affairs and its State Secretariat for Economic Affairs and Federal Office for Agriculture). During this first internal consultation process critical concerns were raised. The objections partly referred to targets pertaining to land use. With regard to its "apocalyptic phrasing" the draft was criticised for insufficiently appreciating efforts that had already been undertaken in the field of biodiversity conservation. Uncertainties and concerns with regard to some ethical concepts used in the first draft also played a role in its rejection. Addressing these apprehensions, the draft was revised and updated by the FOEN in the first half of the year 2011. In June 2011, the revised draft was again submitted to the federal offices and departments concerned, as well as to the government and this time it received a positive feedback. After this second internal consultation process, the draft, in the following cited as SNBS 2011, was officially submitted to external stakeholders and the public for consultation in a process called "Vernehmlassung" on September 16th 2011. Over a period of three months, every organisation and citizen was invited to comment on and criticise the draft. The feedback was analysed and taken into consideration for a final revision of the draft. Finally, Switzerland's National Biodiversity Strategy (SNBS 2012) was adopted by the Swiss Federal Council on April 25th 2012.

Table 5.5 Milestones in Swiss biodiversity policy

1994	Ratification of the Convention on Biological Diversity (CBD)
1998	1st CBD National Report
2004	2nd CBD National Report
2005	A parliamentary initiative for the development of a national biodiversity strategy is rejected by the government (Bundesrat)
2008	The Swiss Parliament decides to develop a National Strategy
2010	First internal consultation process ("Ämterkonsultation")→ draft revision
2010	4th CBD National Report
2011	Second internal consultation process ("Ämterkonsultation")
2011	Public consultation process ("Vernehmlassung")
2012	The Federal Council adopts the Swiss National Biodiversity Strategy

5.3.3 Structure and contents

The strategy includes ten strategic targets until 2020, which are related to several action fields.

In 2009, Switzerland's government agreed on an overall target and four cornerstones of its future National Biodiversity Strategy. The overall target is "The biodiversity is rich and able to respond to changes. Biodiversity and related ecosystem services are sustained in the long run" (FOEN 2010). The

overall target is specified by four sub-goals. The strategy is structured in eight main chapters (within about 90 pages). Ten strategic targets for the year 2020 form the core of the strategy (compare → Table 5.6) (SNBS 2012).

5.3.4 Implementation

By 2014, an action plan shall elaborate concrete targets and measures in cooperation with all partners concerned: cantons, local authorities and other actors. The FOEN is in charge of the development process of an action plan. The strategy will be evaluated. By 2017 an interim report shall facilitate the recognition of needs for changes. In 2020, a general evaluation with regard to implementation and efficiency will be conducted.

5.3.5 Online Resources

The Swiss biodiversity strategy (in German) is available at:
www.bafu.admin.ch/biodiversitaet/10372/10395/index.html?lang=de

A short version of the biodiversity strategy (in German) is available at:
www.bafu.admin.ch/publikationen/publikation/01662/index.html?lang=de

The strategy draft which was submitted to the public on September 16th 2011 is available for download at
www.admin.ch/ch/d/gg/pc/documents/2105/Strategie_Biodiversitaet_Schweiz_de_2011-09-16.pdf; 12/10/2011

A Fact sheet on the four cornerstones of the planned biodiversity strategy (in German), published by the Federal Office for Environment FOEN:
www.biodiversity.ch/downloads/dFaktenblatt4Biodiversitaetsstrategie.pdf

Switzerland's Fourth National Report under the Convention on Biological Diversity is available at:
www.bafu.admin.ch/publikationen/publikation/01549/index.html?lang=en

Websites of the Swiss Biodiversity Forum, a platform of the Swiss Academy of Sciences:
www.biodiversity.ch/index.en.php

Table 5.6 Structure of the Swiss National Strategy on Biodiversity (Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation (UVEK), Bundesamt für Umwelt (SNBS 2012, our translation)

Swiss National Strategy on Biodiversity			
Chapter	**Title**	**Content**	**Pages**
Management summary	Management summary	Outline of status quo, short description of ten strategic goals, general conditions for implementation	5-10
1	Introduction	Reasons for strategy and outline of development process	11-13
2	The concept of biodiversity and its importance	Definitions, importance of Biodiversity for society	14-18
3	Biodiversity in the international context	Relation to international conventions and agreements, global interdependence of Switzerland	19-23
4	The status quo of biodiversity in Switzerland	Illustrates status quo in view of ecosystems, species richness: degradation since 1900	24-28
5	Biodiversity conservation to date	Delineates efforts taken so far: current instruments, puts special focus on genetic diversity	29-34
6	Facilitation of biodiversity in relevant areas to date	Describes different influences on and benefits from biodiversity, focusing on existing political instruments: forestry, agriculture, hunting and fishery, tourism and recreation, spatial planning, transport, renewable energies, properties of land, grounds and buildings of the Swiss state, education and research, consumption	35-48
7	Strategic targets	10 targets describe key aspects that should orientate action in all sectors: 1. Sustainable use of biodiversity 2. Creation of ecological infrastructure 3. Improvement of the status of threatened species 4. Conservation of genetic biodiversity 5. Revision of financial incentives 6. Assessment of ecosystem services 7. Generation and distribution of knowledge 8. Biodiversity development in urban areas 9. Strengthening of international commitment 10. Monitoring	49-68
8	Framework requirements for implementation	Outlines next steps concerning the implementation of the strategy and its evaluation	69-71
Appendix	Appendix	Appendix	72-78
Abbreviations	Abbreviations	Abbreviations	97-80
Glossary	Glossary	Glossary	81-89

5.4 European Union

Like the Swiss strategy, the new European biodiversity strategy was still under construction when we began our study in November 2010. It was released on May 3rd 2011 under the title "Our life insurance, our natural capital: an EU biodiversity strategy to 2020". This section essentially draws from the presentation by Hans Friederich, then Regional Director Europe at the IUCN, given at the "Dialogforum Ethik" in Stuttgart-Hohenheim in March 2011 and was updated after the new EU strategy had been published. As an assessment of concrete current achievements and problems with implementation of the new EU biodiversity strategy was not provided for within the framework of this study, paragraph 5.4.4 on the implementation of the strategy mainly relies on Mr Friederich's presentation from March 2011.

5.4.1 Origin and status

After approval of the CBD in 1993, a first biodiversity strategy was set up in 1998. The 2010-targets of this strategy were not reached, however. Hence, new targets for a post-2010 period were formulated. The new EU biodiversity strategy was published in May 2011.

The European Community approved the CBD in 1993. As a result, the first EC Biodiversity Strategy was adopted in 1998 and developed to meet the EC's obligations to the 1992 CBD. It provided a comprehensive response to the many requirements of the CBD. In 2001, EU Heads of States and Governments made the commitment at the EU's Spring Summit in Gothenburg to "halt the decline of biodiversity by 2010" as part of the European Union's biodiversity policy. To reach this target, initiatives like the "Countdown 2010 initiative" were set up, and by 2010 more than 1000 organisations, local and national authorities, and companies had pledged to implement specific biodiversity conservation actions. The EU 2010 target was also the prime catalyst for development of the 2006 European Biodiversity Action Plan (COM(2006) 216 final).

As the European 2010-target was expected to be missed, the Environmental Council adopted a proposal to develop a post-2010 framework for biodiversity conservation in April 2009. This proposal was endorsed by the European Council in July 2009. The European Council subsequently called on the European Commission to draw up the new strategy. In the following time, the Council committed to an EU post-2010 vision and target for biodiversity, which is to halt the loss of biodiversity and ecosystem services in the EU by 2020, to restore them as far as possible, and to step up the EU's contribution to averting global biodiversity loss (COM(2010) 4 final). During the 10th Conference of the Parties to the Convention on Biological Diversity in Japan in October 2010, it was globally admitted that the goal of halting the rate of biodiversity loss has been missed. New targets were set for 2020 and beyond (Parties to the Convention on Biodiversity 2010). Hence, in preparation for the Conference of the Parties in Japan, the European Commission had already prepared a statement with these "Options for an EU vision and target for biodiversity beyond 2010" on the basis of the Council's decision (COM(2010) 4 final). Furthermore, in 2010 the European Parliament called for better integration of biodiversity aspects in other EU policy areas (e.g. also in view of budgetary aspects). The new EU biodiversity strategy was finally endorsed by the European Council in May 2011 (ENBS 2011).

5.4.2 Who was involved?

The EU Strategy development process was conducted by the European Commission on behalf of the European Council. Member states and stakeholders were involved in the process.

The European Commission was responsible for the development of the new EU biodiversity strategy. The Directorate-General for the Environment is concerned with the field of nature conservation and biodiversity. The development of the Strategy was

characterized by internal discussions, member state consultations, and an external consultation by NGOs and citizens (compare SEC(2011) 540 final: 4f.):

- Considering the internal coordination, a so called Biodiversity Inter-service Coordination Group of the European Commission met five times within one year in order to exchange views and provide information. During a top-level conference, the European Parliament Intergroup on Climate Change and Biodiversity discussed the BAP and focused on defining future targets and a post-2010-vision. Furthermore, the European Economic and Social Committee gave recommendations to the draft and the Committee of the regions' opinion was obtained.

- Conferences and meetings were organised in order to integrate the views of member states and stakeholders like NGOs and biodiversity user groups.

- Consultation processes with European citizens and NGOs were conducted mainly through the internet. There was a more interactive discussion about the draft biodiversity Strategy during the 2010 Green Week in early June, where visitors to the event where given the opportunity to give their views and opinions on the draft targets of the Strategy. A second round of (web-based) consultation was conducted towards the end of 2010.

After the consultation processes, the draft strategy was finalised from end of 2010 until May 2011 by the European Commission. From the perspective of the IUCN, the development process then lost its transparency as the final adjustments were made without the public. Eventually published and adopted in May 2011, the new strategy now has to be implemented, and it is not yet specified what the particular responsibilities of the European Commission, the EU Member States and civil society will be:

> *"[…] the Commission will work with Member States to develop a common framework for implementation involving also other key actors, sectors and institutions based on best practice, and setting out the roles and responsibilities of each in ensuring success" (ENBS 2011: 10).*

Table 5.7 Milestones in European biodiversity policy (see also Annex 2 of the European Biodiversity Strategy (ENBS 2011 Annexes))

1993	Approval of the CBD
1998	1st National Report
1998	First Biodiversity Strategy is resolved
2001	The EU 2010-target is defined (halting biodiversity loss within the EU by 2010)
2002	2nd National Report
2005	3rd National Report
2006	EU Biodiversity Action plan (BAP)
2009	4th National Report
2009	The Environment Council decides to establish a new framework for biodiversity ("Carta di Siracusa")
2009	The "Carta die Siracusa" is endorsed by the European Council
2010	BAP report: 2010 target failed The European Council agrees on a new vision and on headline targets for biodiversity and recalls the decision to draw up a post-2010 strategy
2011	The EU Biodiversity strategy "Our life insurance, our natural capital: an EU biodiversity strategy to 2020" is released by the European Commission and endorsed by the European Council

5.4.3 Structure and contents

Europe's biodiversity strategy paper released in 2011 formulates six general targets and 20 concrete action targets.

The new European strategy comprises several documents: the actual strategic paper (COM(2011) 244 final, 16 pages cited as ENBS 2011) is the core of the strategy and entitled "Our life insurance, our natural capital: an EU biodiversity strategy to 2020". It is supplemented by the Impact assessment with separate annexes (SEC(2011) 540 final) and a short summary of the impact assessment (SEC(2011) 541 final).

The official documents are accompanied by a citizens' summary aimed at the general public. Memo/11/268 of the European Union (2011) provides answers to 44 questions, which explain the strategy, its reasons and goals to the general public. The strategy itself is also available as an illustrated brochure clearly addressed to a lay audience. Table 5.8 gives an overview of the main strategic paper, which focuses on six "mutually supportive and inter-dependent" targets (p. 4), which result in 20 action targets.

Table 5.8 Structure of the EU biodiversity strategy 2020
"Our life insurance, our natural capital: an EU biodiversity strategy to 2020

Chapter	Title	Content	Pages
1	Introduction	Gives an introduction to the topic.	1
2	A new foundation for EU Biodiversity policy	2.1 2050 vision and 2020 headline target 2.2 concentrates on values of biodiversity and the economic dimension of biodiversity loss 2.3 emphasizes the political framework in which the strategy must be seen, referring to other policy areas and projects coming up.	2-4
3	A framework for the next decade	Presents the six main targets of the strategy: Target 1: Conserving and restoring nature Target 2: Maintaining ecosystems and their services Target 3 and 4: Ensuring sustainable use of biodiversity by agriculture and forestry (T3) and fishery (T 4) Target 5: Combatting invasive alien species Target 6: Addressing the EU's contribution to global biodiversity loss	4-7
4	We are all in this together	Focuses on the integration of all EU member states and stakeholder groups into the implementation process also with regard to financial resources.	8-10
5	Follow-up	Points out that the implementation of the strategy must start now and will be reviewed in 2014.	10
Annex	Annex	Defines 20 action targets attributed to the six main targets, which provide measures required for the implementation of the main targets.	11-16

5.4.4 Implementation

Important achievements of biodiversity policy, like the increase of nature protection areas, face various challenges in order to reach the 2020 targets such as the need for adequate funding and extensive integration of biodiversity into other policy areas. EU overseas entities deserve particular attention as they host the highest European biodiversity.

The EU biodiversity strategy can be seen as an attempt to integrate existing policy instruments of biodiversity conservation, which has now to be implemented. A mid-term review of the implementation is planned for 2014. Besides the strategy, there are currently three major European policy instruments that deal with nature conservation: the Council of Europe's Berne Convention, and the European Union's Habitats and Birds Directives. In addition, there are several regional conventions and strategies (e.g. conventions for mountain ranges like the Alpine Convention or for seas or lakes (like the OSPAR Convention for the North Sea). In addition to these regional legal instruments, there are several strategies and directives dealing with sectors that have a major impact on biodiversity but that are not seen as biodiversity focused per se. The most obvious ones are the EU Common Agricultural Policy, the EU Water Resources Framework and the EU Common Fisheries Policy.

Although deficits in the implementation of these policy instruments can be stated (e.g. BUND 2011), one of the results of all these programmes linked with biodiversity has been an increase in protected area coverage during the past years: It is estimated that 17% of the European Union's landmass is now under Nature 2000 management. Yet, despite all these initiatives, European biodiversity is still at risk and, as mentioned above, the 2010-target of halting the loss of biodiversity failed. One of the most interesting aspects of protected area management in Europe, and maybe one of the most controversial ones, is the protection of biodiversity in the overseas entities of the European Union. The overseas entities have the highest European biodiversity, and they are also most vulnerable to climate change and invasive species. Because of their legal status, biodiversity management regulations follow the rules of the European Union and their parent nation in mainland Europe. However, European rules may not always be appropriate for tropical biodiversity. Outermost regions and overseas countries and territories are also not eligible for official development assistance. Funding for the protection of this key form of biodiversity in Europe is therefore scarce. Therefore, in chapter 4.1 "Partnerships for biodiversity" the new EU biodiversity strategy states that "[T]he Commission and Member States will work with the outermost regions and overseas countries and territories […] through the BEST (Biodiversity and Ecosystem Services in Territories of European Overseas) initiative to promote biodiversity conservation and sustainable use" (ENBS 2011: 8).

The European Parliament Intergroup on Climate Change and Biodiversity asserted at its conference "The 2010 Biodiversity Challenge: Will the EU reach it? What future after 2010?" in 2009 that insufficient integration of biodiversity into other policy sectors, lack of financial resources and insufficient attention to the economic dimension of biodiversity can be considered as key problems in biodiversity policy (ENBS 2011, Annexes: 4f). As a consequence, several sections of the new EU strategy deal with these problems. For instance, chapter 4.2 explicitly covers better funding ("Mobilising resources to support biodiversity and ecosystem services", p. 9). The strategy also emphasizes that it must be seen as an "integral part of the Europe 2020 strategy" (p. 1), aiming at integrating biodiversity in EU policy better with regard to forthcoming reforms of the Common Agricultural and Fisheries Policies (CAP and CFP) and the Multiannual Financial Framework for 2014-2020.

5.4.5 Online Resources

EU Biodiversity Strategy for 2020 and its accompanying documents:
http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

Illustrated brochure:
http://ec.europa.eu/environment/nature/info/pubs/docs/brochures/2020%20Biod%20brochure%20final%20lowres.pdf

European Commission Nature and Biodiversity website:
http://ec.europa.eu/environment/nature/index_en.htm

The 2006 EU Biodiversity Action Plan and 2010 Assessment:
http://ec.europa.eu/environment/nature/info/pubs/docs/2010_bap.pdf

Biodiversity Information System for Europe (BISE):
www.biodiversity.europa.eu

The Natura 2000 Network:
http://ec.europa.eu/environment/nature/natura2000/index_en.htm

Europe's Clearing House Mechanism Website:
http://biodiversity-chm.eea.europa.eu/

European Biodiversity on the webpage of the IUCN:
www.iucn.org/about/union/secretariat/offices/europe/about/european_biodiversity/

5.5 Commonalities and differences

This final section summarises commonalities of and differences between the four strategies analysed. After a short comparison of formal and structural characteristics (summarising → sections 5.1–5.4.), we will describe how the strategies refer to the three main objectives of the CBD in → paragraph 5.5.2. A comparison of arguments with regard to the triad of Prudence, Justice and Good Life in → paragraph 5.5.3 is followed by some remarks on participation (→ paragraph 5.5.4). The last paragraph (→ paragraph 5.5.5.) provides an overview of the most important commonalities and differences observed in table form (→ Table 5.9).

5.5.1 Formal and structural characteristics

The strategies analysed differ with regard to the date of publication and the degree of political approval. They are similar with regard to their inter-sectoral design and their assignment to Ministries of the Environment. Further differences pertain to the concreteness of targets.

Germany, Austria, Switzerland and the European Union all ratified the CBD either in 1993 or 1994. Austria and the European Union delivered their strategic paper within the following five years. Austria published its first biodiversity strategy in 1997 and the European Union did so in 1998. The German NBS was released in 2007 and Switzerland recently published its strategy in 2012. Meanwhile, the Austrian and the European papers from 1997 and 1998 were followed by revised versions in 2005 (Austria) and 2011 (EU).

All strategies stress being cross-sectoral strategies. Nevertheless, all strategies were developed under the auspices of the Ministries of the Environment (EU: Directorate-General for the Environment). They were in charge of developing a concept for the administrative and participative process. In all cases, first drafts of the strategy were drawn up by internal working groups, yet in more or less intense cooperation with other ministries, experts and representatives. In the details, however, each country had its own way. Germany combined contemporaneous internal discussions with expert workshops for external exchange. Austria founded a National Biodiversity Commission as a panel of different stakeholders. Switzerland's strategy development process was geared to the common legislative procedure. In all strategies, different stakeholders were involved in the process. While the German, Swiss and European strategies were adopted by the respective governments, the Austrian strategy was adopted by the Biodiversity Commission and acknowledged by the Council of Ministers.

All four strategies are written in a fairly comprehensible style and aim at reaching a broader audience: not only the primary and secondary stakeholders included in the development process (administration, policy makers, NGOs, experts from science and research and others), but also the interested public. Measures of communication, education and awareness-raising are part of every strategy.

With regard to their structure, all strategies analysed refer to other existing international, national and regional strategic documents. Furthermore, all strategies follow the lead of the global level (Aichi-targets) and formulate visions, targets, sub-targets and actions or measures (assigned to different action fields). It is beyond the scope of this ethical study, however, to gauge the extent and concreteness of the listed measures. Concerning the Austrian and Swiss strategy, one can generally say that most targets mentioned to specify general visions or headline-targets seem to be qualitative targets which are to be fulfilled within a certain timeframe (e.g. by the year 2020). Only the German strategy tries to set up precise quantitative targets in addition to qualitative targets, which leads to more precise measures.

The European strategy is certainly difficult to compare as it must be seen as a framework strategy together with the impact assessment, which may explain the rather general and non-quantitative targets.

Further differences between the strategies exist with regard to the financial resources spent on the development of the strategy and, of course, planned for its implementation. The German BMU started a permanent promotional programme on biodiversity. In contrast, Austria does not provide any additional money to realise the measures approved in the strategy. The Swiss strategy also mentions that supplementary money will be needed for the implementation of the strategy. The amount of the specific needs and available resources will be determined in the process of the development of the action plan. The European strategy generally emphasises the importance of sufficient funding in 4.2. (COM (2011) 244 final: 9).

5.5.2 Reference to the CBD

All strategies refer to the Convention on Biological Diversity and name all three goals of the CBD. However, those goals are not represented as equally important in the documents.The fact that issues of global justice are treated separately in special chapters and that they appear at the end of target lists indicates that they are of less importance for national strategies than conservation and sustainable use.

After the ratification of the CBD, member countries are pledged to elaborate National Biodiversity Strategies and Action Plans (NBSAPs). As a rule, strategies therefore refer to the CBD and its three main objectives: to conserve biodiversity, to use it in a sustainable manner, and to share its benefits in a fair and equitable way. In general, all four strategies reviewed in this study also refer to the CBD objectives.

The **German strategy** emphasises this triad already in its preamble (→ box 5.1).

> "The international community recognises that this is a highly complex problem which cannot be solved through isolated nature conservation activities. It is a matter of
>
> - Protecting habitats and protecting wild animals, plants, fungi and microorganisms
> - Ensuring the sustainable use of wild and farmed species and their genetic diversity
> - Safeguarding access to the world's genetic resources, ensuring the equitable distribution of benefits resulting from the use of such genetic resources, and thereby improving the development opportunities of poorer countries in particular, which are often rich in biodiversity."
>
> GNBS 2007: 6–7

Box 5.1 Reference to the CBD in the German Biodiversity Strategy

The "concrete visions" address conservation and sustainable use as well as access and benefit sharing. A special chapter is devoted to "eradicating poverty and promoting justice. Combating poverty is also one of the 16 action areas.

The **European strategy** dedicates its six main targets individually to the three CBD objectives: (ENBS 2011)

- Targets 1, 2 and 5 primarily aim at nature conservation (though in some cases of implementation sustainable use may certainly be a possible measure to reach this goal)
- Target 3 and 4 focus on the sustainable use of biodiversity in agriculture, forestry and fisheries
- Target 6 mentions international commitments (although this target remains quite vague)

A comparison of both generations of **Austria's biodiversity strategies** shows a development with regard to the integration of all three CBD aims. While the first Austrian Strategy (ANBS 1998) mainly focused on aspects of biodiversity conservation and sustainable use, the second, revised version (ANBS 2005) addresses all three objectives:

- Action field 1 is dedicated to the conservation of biodiversity:
- Action field 2 focuses on the sustainable use of biodiversity in the areas of agriculture, forestry, hunting, fishery, tourism, mining, industry, energy, transport:
- Action field 4 explicitly concentrates on aspects of equitable benefit sharing with its paragraphs on Access and Benefit Sharing (ABS), traditional knowledge and development cooperation

The ten targets of the **Swiss strategy** (SNBS 2012) also can be correlated with the three CBD aims:

- Target 1 is dedicated to the sustainable use of biodiversity
- Targets 2, 3, 4, 8, 10 relate to conservation
- Target 9 addresses access and benefit sharing as well as international responsibilities of Swiss producers and consumers

In an international comparison of various NBSAPs, Prip et al. (2010) pointed out that the three CBD objectives may be addressed in an unbalanced way in biodiversity strategies. According to their study, conservation objectives tend to be overemphasized in comparison to sustainable use and fair and equitable sharing, with the latter bringing up the rear. This phenomenon can also be noticed in the biodiversity strategies of Germany, Austria, Switzerland and the European Union. In all strategies, conservation and sustainable use of biodiversity dominate not only with regard to elaborated targets and concrete measures but also with regard to visibility in communication.

In all strategies, conservation and sustainable use of biodiversity dominate not only with regard to elaborated targets and concrete measures but also with regard to visibility in communication.

The Swiss strategy opens with a target pertaining to the sustainable use of biodiversity. Germany, Austria and the European Union begin with the conservation aspect. Although fair sharing of benefits is mentioned, this target receives less attention than others. In the Swiss strategy, one out of ten targets explicitly tackles global responsibility. Likewise, in the European Strategy one out of six targets refers to the third CBD objective. The title of the Austrian strategy's summary is "Conservation and sustainable use of biological diversity". Although the strategy refers to all three CBD targets, the third target becomes less visible in the communication to the general public. For example, the German strategy's preamble asserts that "[t]he German Government has made the conservation of biological diversity through protection and sustainable use a top priority" (GNBS 2007: 7). Even though the CBD's third aim of equitable sharing is focused on in further chapters, it is not mentioned at this prominent point. Likewise, most objectives addressed as visions, targets and action fields relate to measures of either conservation or sustainable use.

Hence, the third CBD objective seems to receive less attention than conservation and sustainable use. There may be several reasons for this. First of all, ABS refers to international relations and dependencies, which makes it a more complex and less concrete topic to communicate. Secondly, fair and equitable sharing of benefits could be regarded as more important for the developing countries than for

the audiences the national European strategies are addressed to. Thirdly, due to the complexity of the issue it is more difficult to name concrete actions, measures and targets required for a national strategy. However, by giving less room to the topic than to others, communication about questions of fair distribution and procedures is not encouraged.

All strategies explicitly mention "fair and equitable sharing of benefits" in separate sections. For example, article 7.9 of the Swiss strategy, "enhancement of international commitment", states a rather weak and vague target: "Swiss commitment for conservation of global biodiversity on the international level is enhanced until 2020" (SNBS: 65). The explanations which follow depict action fields concerned, but targets remain quite imprecise. Further examples for "isolated" chapters on fair and equitable sharing are chapter E ("Eradicating poverty and promoting justice") and Action Area C 16 ("Combatting poverty and development cooperation") within the German strategy (NBS 93, 101) as well as the main course of action on "cooperation" in the Austrian Strategy (Article 2.5, ANBS: 71).

There are further cases in which one could expect an integration of the third objective to be mentioned, but it is not: Paragraph 2.4.3 of the Austrian Strategy states that "[t]he request of conservation and sustainable use of biodiversity has to be integrated in all social and economic sectors […]" (ANBS 2005: 69). The objective of fair and equitable sharing could also be integrated in all social and economic sectors quite well. Another example can be found in the European strategy: In chapter 4 ("We are all in this together"), outermost regions and overseas territories of the European Union are mentioned as protagonists in "partnerships for biodiversity":

> *"The Commission and Member States will work with the outermost regions and overseas countries and territories, which host more endemic species than the entire European continent through the BEST (Biodiversity and Ecosystem Services in Territories of European Overseas) initiative to promote biodiversity conservation and sustainable use" (ENBS: 8).*

Access and Benefit Sharing should certainly also apply for the outermost territories and overseas countries with its rich biodiversity, but it is not mentioned in this context.

To summarise: On one hand, the three CBD objectives are all explicitly mentioned in all strategies. On the other hand, however, the fact that this aspect is treated in special chapters indicates that a true integration of the three objectives still remains a desideratum. As the reader tends to understand the order of appearance of a topic as an indication of its importance, the overall impression in all strategies is that global issues are deemed to be less important topics because they come last.

5.5.3 Argumentation

While all strategies mention all kinds of argumentation, arguments of Prudence dominate all strategies. However, the Austrian and German papers feature many potential starting points for arguments of the Good Life, while the European and Swiss strategies quite narrowly rely on an economic and utility-centred approach.

As is to be expected, all types of arguments, Prudence, Justice and The Good Life, are to be found in all strategies analysed. While all strategies use all kinds of arguments, the extent to which the different argumentations are used differs between strategies, however.

In a nutshell, the introductions to the strategies display the general course of the argumentation (→ box 5.2). As can be seen, all strategies introduce biodiversity as an essential condition of human life and emphasise **human dependence on biodiversity**. However, the spectrum of values addressed within

Germany

Plants, animals, fungi and microorganisms purify the water and air, and ensure fertile soils. The intact ability of the soils and waters to perform self-purification is therefore crucial for the abstraction of drinking water. The natural fertility of the soil ensures a supply of wholesome food. These are not mechanical processes, but instead form part of a complex structure of ecological interactions. Ecosystems have a high absorption capacity and ability to regenerate, but they too have their limitations.
Modern society and the economy are dependent upon the use of nature and the countryside. Agriculture and forestry are the most obvious examples of dependency, but this is also equally true of transport, tourism, commerce and human habitation. In a modern industrial society, how can the protection and use of biological diversity be structured in such a way as to preserve the diversity of species and natural habitats while at the same time realising our social and economic interest in using this diversity appropriately? Achieving an optimum balance between the two is pivotal to sustainable development. (GNBS 2007: 6, Preamble)

Austria

The preservation of biological diversity constitutes one of the largest global challenges for the 21st century. Apart from the intrinsic value of biodiversity and the moral responsibility of human beings to maintain this diversity, it plays a central role in the context of ecosystem processes and the ability of ecosystems to adapt to changed conditions (key word climate change) since plants, animals and micro-organisms exert an influence on materials cycles and the dynamics of ecosystems, thus controlling ecosystem functions as well as ecosystem services. Moreover, human beings are dependent upon many "products" of biological diversity, be these foods, building materials or natural ingredients in plants which can be utilized for medicaments, for example. Thus the loss of such diversity limits options for use by future generations. (ANBS 2005:5, Introduction, our translation)

Switzerland

Biodiversity is an indispensible foundation for life on earth and thus the basis of human existence. It comprises diversity of ecosystems, species and genes. Biodiversity describes the diversity of life in one word.

Biodiversity provides indispensable benefits for society and economic systems, so-called ecosystem services. The diversity of these services is immense; among other things, biodiversity provides sustenance, influences our climate, preserves the quality of water and air, is a component of soil formation and last but not least, it offers human beings room for recreation. Impairment of biodiversity leads to a reduction of such services and thus it also endangers a sustainable development of economy and society. (SNBS 2012: 5, management summary, our translation)

EU

Biodiversity – the extraordinary variety of ecosystems, species and genes that surround us – is our life insurance, giving us food, fresh water and clean air, shelter and medicine, mitigating natural disasters, pests and diseases and contributes to regulating the climate. Biodiversity is also our natural capital, delivering ecosystem services that underpin our economy. Its deterioration and loss jeopardises the provision of these services: we lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing. This makes biodiversity loss the most critical global environmental threat alongside climate change – and the two are inextricably linked. While biodiversity makes a key contribution to climate change mitigation and adaptation, achieving the '2 degrees' target coupled with adequate adaptation measures to reduce the impacts of unavoidable effects of climate change are also essential to avert biodiversity loss (ENBS 2011: 1, introduction).

Box 5.2 Introductory paragraphs of the four strategies

this prudential perspective and the extent to which other arguments are integrated differs noticeably from strategy to strategy.

The only introduction that clearly places the utility of biodiversity behind its **intrinsic value** is that of the Austrian strategy. In this vein, one of its guiding principles asserts that intrinsic value and non-economic values have to be reflected in biodiversity policies:

> *"The intrinsic value and the non-economic value of biological diversity shall be incorporated into policymaking. " (ANBS: 11, our translation).*

In contrast, the European and the Swiss strategy, both of them quite recent in their origin, display a narrower version of Prudence. They both stress the **economic value** of biodiversity and ecosystem services and explicitly refer to the TEEB study. Due to its current dominance, the economic version of the prudential argument will be discussed in more detail in chapter six, where we specifically address its relation to ethical considerations.

With regard to argumentation, the Swiss strategy underwent major revision several times. While the first internal draft had explicitly addressed intrinsic value (and had been criticised for this focus), the 2011 draft of the Swiss strategy presented intrinsic value as one of a set of ethical arguments used in classic nature conservation ("Die klassischen Motive des Naturschutzes sind denn auch weitgehend ethischer Natur (Existenzrechte der Arten, Respekt vor der Natur, Eigenwert der Natur usw."), SNBS: 15). By labelling this kind of argumentation as "historical", the draft seemed to insinuate that this former (and contested) argumentation should be supplemented or even replaced by a more modern argumentation centred around ecosystem services. This new focus on economic arguments was criticised during the public consultation in many responses. The final paper now reflects criticism while also featuring a paragraph on "ethical aspects of biodiversity" in section 2.3 ("The relevance of biodiversity for society"). This paragraph names "intrinsic value" as one of three arguments for the preservation of biodiversity. The two other reasons mentioned are the rights of all humans to have access to existential natural resources and biodiversity's contribution to the good life of human beings. In its recent version, the Swiss strategy explicitly recognises that biodiversity politics is related to existential human rights: "*These rights can only be granted if the required ecosystem services are conserved*" (SNBS 2012: 16).
All other strategies more or less equate "ethical arguments" with "intrinsic value" and do not explicitly address ethical questions contained in economic and ecological arguments. The German strategy was the first to feature a specific chapter on ethical arguments. However, this chapter basically discusses different opinions on the question concerning which natural entities intrinsic moral value can be ascribed to. It does not address questions of intragenerational and intergenerational justice as ethical questions *sui generis*.

For the most part, issues of Justice are mentioned in the strategies implicitly and only in so as far as they concern the matter of access and benefit sharing (ABS). All strategies mention the particular responsibility of Europeans for biodiversity conservation worldwide, although the unequal distribution of benefits with regard to living standards and costs connected with biodiversity is not always explicitly addressed. Questions of distributive justice with regard to competing use interests (e.g. land owners vs. conservationists) remain un-addressed in all strategies. Problems related to the neglect of justice issues will be scrutinised in more detail in → chapter 7.

Future generations form the horizon of all strategies. The long-term perspective is mentioned either explicitly or implicitly by using terms like 'life insurance', or 'precautionary principle'. In doing so, the strategies leave open the question as to whether the consideration of the needs of the future is regarded as a matter of prudence or as a matter of justice. Likewise, all strategies relate biodiversity politics to climate change and sustainable development.

Compared to Prudence and Justice, questions of the Good Life receive relatively little attention. It was not to be expected that happiness, good life or "eudemonia" were explicitly mentioned. But more common terms like beauty or aesthetics are also fairly rare. The subjective dimension of biodiversity

is quite rarely a matter of elaborate presentation. It only appears in terms like "experience of nature", "Heimat", "Eigenart" or "landscape", which are, however restricted to the three national strategies – they do not play a role in the EU strategy. To a certain extent we interpret the occurrence of terms that are subjective as starting point for a debate about options of a good life. These considerations will be developed in more detail in
→ chapter 8.

5.5.4 Participation

Participation of stakeholders took place in the design of all strategies. Differences exist with regard to the time and extent of participation. Also the implementation process of all strategies strives for broad participation.

Generally, the development of all four strategies analysed included participative processes. Conceptualised as being cross-sectoral, all strategies explicitly sought for active involvement not only of other ministries but also of representatives of a broad spectrum of stakeholders. An overview of the respective actions and measures is given in → table 5.9.

Similarly, all four strategies name participation as an instrument for the implementation process: The German strategy mentions "participation and involvement of migrants" (GNBS 2007: 61), as well as "participation and involvement of the local and indigenous population in local projects" as a measure for implementing the action targets (GNBS 2007: 94).

In the Austrian strategy, "participation and public access to information" constitute one out of 15 general guiding principles (ANBS 2005: 11). With regard to interest conflicts concerning use of a limited landscape it acknowledges that processes of participation are of major importance to achieve public acceptance of the required management decisions (ANBS 2005: 24).
Accordingly, the Swiss strategy envisages the involvement of all parties concerned in the development of a concrete action plan: "Die Erarbeitung des Aktionsplans wird gemeinsam mit den Partnern realisiert, die von den vorgesehenen Massnahmen betroffen sind. (SNBS 2012: 10) "Under the headline "partnerships for biodiversity" the EU strategy asserts: "*The active involvement of civil society will be encouraged at all levels of implementation*" (ENBS 2011: 8).

In contrast to the participative design of all strategies, complaints about unsatisfactory involvement and insufficient representation of stakeholder interests are to be found in all countries and with regard to diverse interests. Landowners, conservationists, and scientists express concern that their voices have not been heard sufficiently. An analysis of current participation processes and their assessment with regard to extent and effectiveness are beyond the scope of this study. However, criticism with regard to deficient participation may in part be related to inadequate communication. Recommendations with regard to communication, education and public awareness measures are presented in → chapter 9.

5.5.5 Schematic overview

→ Tables 5.9–5.13 provide a schematic overview of important formal, structural and procedural characteristics of the national biodiversity strategies of Germany, Austria, Switzerland and the European Union (→ paragraph 5.5.1). It also outlines commonalities and differences pertaining to the reference to CBD goals, the primary reasoning within the strategies as well as the participative processes, which were discussed in → sections 5.5.2–4.

Table 5.9 Formal and structural characteristics of the National Biodiversity Strategies of Germany, Austria, Switzerland and the European Union (compare → 5.5.1).

Formal and structural characteristics	Germany	Austria
Year of CBD ratification	1993	1994
Date of release	2007	1st version: 1997 2nd version: 2005
Status	Adopted by the Federal Cabinet	Adopted by the Austrian Biodiversity Commission, Acknowledged by the Council of Ministers
Document type	Strategic paper, written in a generally understandable style, richly illustrated, available in German and English	Strategic paper written in a generally understandable style, not illustrated, available in German
Number of pages	180	94
Additional or accompanying documents	Indicator report (2010)	Short summary available in German, Action Plan with regard to neobiota
Ties to existing strategies	International level: CITES (in international trade in endangered species); GSPC (plant species conservation); Bonn Convention; Ramsar (wetlands) Convention; World Heritage Convention. EU-level: Habitats Directive; Water Framework Directive ; Natura 2000; Birds Directive; Berne Convention. Regional level: OSPAR (protection of North-East Atlantic) ; Wadden Sea Copperation (with Denmark and the Netherlands) National level: National Sustainability Strategy (2002), National Strategy on Forests (2011)	International level: CITES (in international trade in endangered species); Bonn Convention; Ramsar (wetlands) Convention. EU-level: Habitats Directive; Water Framework Directive ; Natura 2000; Birds Directive; Berne Convention; PEBLDS. Regional level: Alpine Convention National level: National Sustainability Strategy (2002), National Forest Programme (2011)
Main aspects in form and content	Eight major sections (A-H): The first section addresses the current situation and reasons for biodiversity conservation (A). Its core are 28 general visions and several quantity and quality targets (part B), leading to 430 measures assigned to 16 action areas (part C) including topics such as interlinked biotopes, human settlement and transport and information and education. Following sections focus on special areas such as eradicating poverty and promoting justice or flagship projects (D-F). A descriptions of 10 flagship projects (G) is unique in the German Strategy. Section H is concerned with reporting, indicators and monitoring.	Five major sections (1-5): The introduction (1) lists 15 general principles. Its core is a chapter on four main areas of action in which about 250 targets (nonquantitative) and 250 measures are defined (2). The Appendix (3) adds specific information on agriculture and husbandry. Section 4 lists criteria for the future action plans and gives equal attention to different sectors and areas, among them agriculture, hunting and fishing; it also features larger chapters on cooperation such as access and benefit-sharing.

Switzerland	EU
1994	1993
2012	1st version: 1998 2nd version: 2010
Adopted by the Swiss Federal Council	Endorsed by the European Council
Strategic paper, written in a generally understandable style, not illustrated, available in German, French and Italian	Strategic paper (COM(2011 244 final), Official paper not illustrated, illustrated version
89	16
Short portrayal of the strategy as a illustrated leaflet for the general public	Impact assessment with Annexes (SEC(2011) 540 final) (85 p./70 p.), Short summary of the impact assessment (SEC(2011) 541 final)
International level: CITES (in international trade in endangered species); Bonn Convention; Ramsar (wetlands) Convention; EU-level: Berne Convention National level: National Sustainability Strategy	International level: CITES (in international trade in endangered species); Ramsar (wetlands) Convention; World Heritage Convention. EU-level: Habitats Directive; Water Framework Directive ; Natura 2000; Birds Directive.
Eight major sections (1-8): Sections 1-5 address the current situation. Relevant action areas like forestry, transport, education and consumption are described in section 6. The Strategy's core are ten general strategic targets by 2020 with several (in general) nonquantitative sub-targets (7). General framework requirements are outlined in section 8.	Five major sections (1-5): After an introduction to the current situation and background (1), a general 2050 vision and a headline target is given (2). Six general non-quantitative targets for 2020 are presented (3), which should be reached through 20 main actions (non-quantitative but with timeframes) (5). Part 4, entitled "We are all in this together", focuses on the integration of all EU member states and stakeholder groups into the implementation process.

Table 5.10 Protagonists incorporated into the development process and addressees of the National Biodiversity Strategies of Germany, Austria, Switzerland and the European Union

Protagonists, addressees	Germany	Austria
Primary stakeholders (Lead management)	Federal Ministry for the Environment (BMU); Federal Agency for Nature Conservation (BfN)	Federal Ministry of Life leads National Biodiversity Commission (broad range of participants including administration, social partners, landowners, science and NGOs)
Secondary stakeholders	Federal Environment Agency (UBA); other Federal Ministries (e.g. of Agriculture, Transport, Research); federal states authorities; experts, e.g. from science and research, environmental and conservation associations, land use organisations	Federal Environment Agency, Federal Ministries (e.g. for Economy, Agriculture or Science); Research Centres and Scientific Institutions; regional ministries and governments; biodiversity user groups; NGOs
Addressees	Primary and secondary stakeholders, politicians, the interested public	Primary and secondary stakeholders, the interested public

Table 5.11 References of the strategies to the three targets of the CBD in the National Biodiversity Strategies of Germany, Austria, Switzerland and the European Union

Reference to CBD	Germany	Austria
General reference to CBD goals	Reference to all three objectives	Reference to all three objectives
Sections referring to single CBD goals	**Conservation:** Vision B 1, Action area C 1-C 3 **Sustainable use:** Vision B 2, Action area C 6-C 8 **Fair and equitable sharing:** B 4, Action area C 5, C 15, C 16	**Conservation:** Action field 1 (2.2) **Sustainable use:** Action field 2 (2.3) **Fair and equitable sharing:** Action Field 4 (2.5)
Emphases	Ascendance of conservation and sustainable use. Fair and equitable sharing as well as intergenerational justice occur in several sections. Part E is completely dedicated to the third CBD goal.	Ascendance of conservation and sustainable use. Section 2.5 (co-operation) dedicated to ABS and development cooperation

	Switzerland	EU
	Federal Office for the Environment (FOEN) of the Federal Department of the Environment, Transport, Energy and Communications (DETEC)	Directorates-General for the Environment of the European Commission; Biodiversity Inter-service Coordination Group
	Other federal offices within the DETEC; further federal departments (e.g. of Economic Affairs); cantons; experts from science and research; NGOs ; citizens via conventional consultation processes	European Parliament Intergroup on Climate Change and Biodiversity; European Economic and Social Committee; Committee of the Regions; NGOs; biodiversity user groups; citizens and further NGOs (mainly via internet)
	Primary and secondary stakeholders, the interested public	Primary and secondary stakeholders, politicians of member states

	Switzerland	EU
	Reference to all three objectives	Reference to all three objectives
	Conservation: Targets 2-4 (7.2 – 7.4) **Sustainable use:** Target 1 (7.1) **Fair and equitable sharing:** Target 9 (7.9)	**Conservation:** Target 1, 2, 5 **Sustainable use:** Target 3 & 4 **Fair and equitable sharing:** Target 6
	Emphasis on conservation and sustainable use. ABS also related to own genetic resources.	Emphasis on conservation and sustainable use.

Table 5.12 Argumentation (Prudence, Justice, Good Life) used in the National Biodiversity Strategies of Germany, Austria, Switzerland and the European Union

Argumentation	Germany	Austria
Reference to ethics	One chapter (A5) dedicated to ethical reasons for preserving biodiversity; Ethics is restricted to the question of moral intrinsic value (resource ethics, animal ethics and natural ethics)	Ethical principles declared in section 1.3 (p.10-11)
Values and reasoning in the strategy	Human existence depends on biodiversity (A 1) "Ecological", "economic", "social", "cultural" values (chapter A 2-4) Ethical reasons: "Intrinsic value" (reference to anthropocentric, pathocentric and biocentric ethics) (Chapter A 5)	Humans depend on biodiversity (existence, economy); "Intrinsic value" and "moral obligation" (p.5) Precautionary principle, polluter principle, principle of the common burden (p.10-11) Integration of "non-economic" and "nonmonetary" values (p. 11)
Relation between arguments of Prudence, Justice and Good Life	Ascendance of prudential arguments Implicit ethical arguments such as intra- and intergenerational justice or prudence can be identified throughout the whole document Justice mostly appears in the context of global biodiversity; intergenerational justice as a main argument for the sustainable use of biodiversity within Germany, environmental justice hardly mentioned. Arguments of the Good Life appear but implicitly (e.g. p. 14)	Ascendance of prudential arguments, e.g. precautionary principle, (economic) dependence of humans on nature, human existence depending on nature. Intragenerational justice in the chapter on cooperation. Intragenerational justice restricted to ABS; Intergenerational justice is the horizon of the strategy, but mainly implicitly mentioned; Arguments of Good Life implicit in reference to well-being

Table 5.13 Participation during the strategy development processes and status of participation within the National Biodiversity Strategies of Germany, Austria, Switzerland and the European Union

Participation	Germany	Austria
Participation within the development process	Strategy development on several interchanging levels from the very beginning: internal (BMU/BfN), internal trans-sectoral (Ministries), External stakeholders (experts), General Public not involved	Biodiversity Commission as a broad panel of many different stakeholders Participation of stakeholder groups right from the beginning No participation of general public
Participation mentionend in strategy	Public participation is regarded as a critical issue within the strategy and is addressed both within the German (e.g. including migrants, local population, local economic players) as well as in the global context	Participation is often mentioned in several aims as it is required as important tool in order to gather acceptance (p.24)

Switzerland	EU
One paragraph in ethical aspects of biodiversity names three reasons (intrinsic value, Justice and the Good Life (p.16)	Ethical questions remain largely unaddressed
Human existence depends on biodiversity (p.11) Ratification of CBD (p.11) Relevance for society (section 2.3) "ethical" and "economical" values, Use and non-use values according to TEEB (p.15-18)	Human existence depends on biodiversity;Ecological & economic reasons "Intrinsic value" as add-on argument (p.2,); "essential contribution to human wellbeing" (p.2)
Emphasis on prudential arguments Explicit and extensive description of values according to TEEB Intergenerational justice addressed in section on national impact on global biodiversity (p.20) Justice addressed through ABS and global responsibility (chapter 3) Arguments of the Good Life are named (p16) but mainly addressed in terms of ecosystem services	Dominance of prudential arguments as indicated in the title ("Our life insurance, our natural capital") Emphasis on the precautionary principle (life insurance, human existence) and economic values (multiple reference to TEEB) Global justice implicit in global mandate (p.2), explicit reference to negative impact of European modes of consumption on global biodiversity (p.7, p.15) Good life appears as "Wellbeing" with a focus on ecosystem services. Rather subjective keywords like "beauty" and "landscape" are missing

Switzerland	EU
Sequential procedure (like common legislative procedure): **1.** Draft from administration experts **2.** internal trans-sectoral consultation (other departments) **3.** public consultation (Vernehmlassung); Participation of the general public at the end of the process; participants transparent (all authors named)	Mainly administrative process; Secondary stakeholders included in the core process; All EU citizens were invited to discuss the draft via internet Final revision of the draft non completely transparent
The Action Plan for the implementation of the strategy shall be elaborated in "a participative" process similar to existing planning processes, no new structures shall be installed.	Broad participation of stakeholders sought in chapter

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6 "OUR LIFE INSURANCE, OUR NATURAL CAPITAL"

Biodiversity — the extraordinary variety of ecosystems, species and genes that surround us — is our life insurance, giving us food, fresh water and clean air, shelter and medicine, mitigating natural disasters, pests and diseases and contributes to regulating the climate. Biodiversity is also our natural capital, delivering ecosystem services that underpin our economy. Its deterioration and loss jeopardises the provision of these services: we lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing.
European Biodiversity Strategy 2011

Although efforts to apply economic thinking to ecological problems originated already 50 years ago, the concept of ecosystem services and its broad application in the Millennium Ecosystem Assessment triggered a boom of economic arguments in biodiversity communication. Since the publication of the reports of the Millennium Ecosystem Assessment (MA 2005) biological diversity is increasingly being linked to the concept of ecosystem services in policy papers as well as within science. The introduction of the EU strategy published in May 2011 which was quoted above, may serve as one prototypical example of this recent trend in **prudential argumentation**.

In this chapter, we provide a detailed analysis of the use of the term and show how different languages used by different disciplines and schools of thought are the source of misunderstandings in biodiversity communication.

1. First, we will present **examples from the strategies** analysed and explain the concept of ecosystem services (→ section 6.1.)

2. Then we will present some **critical concerns** that are frequently raised with regard to ecosystem services (→ section 6.2.)

3. The concept of **instrumental value** proves to be crucial for the approval or rejection of the ecosystem services approach. We will therefore analyse in → section 6.3 the different ways in which economists conceptualise "instrumental value" and "use" and explain why the concept "service" is prone to misunderstandings.

4. The last section draws on the suggested inclusive approach to environmental ethics and argues that **relations are not commodities** and therefore set conceptual limits to economic valuation (→ section 6.4).

6.1 Linking biodiversity to ecosystem services

6.1.1 Occurrence of "ecosystem services" in the strategies analysed

Since the publication of the Millennium Assessment (MA), the concept of ecosystem services has increasingly been used in national biodiversity strategies. While the Austrian strategy (2005) refers to ecosystem services mostly in an implicit manner, the German strategy features a special chapter on the MA. The two most recent strategies, the European and the Swiss ones, heavily rely on ecosystem services in their argumentation.

Screening the available strategic papers for references to"ecosystem services" it can be seen that the use of the term has increased since the publication of the Millennium Ecosystem Assessment (→ table 6.1).

While the first **Austrian strategy** (ANBS 1998) didn't mention ecosystem services at all, the second strategy (ANBS 2005) places "ecosystem services" right in the first paragraph of its introduction.

Table 6.1 Frequency of the term 'ecosystem services' in biodiversity strategies

Document	Keyword	Number of hits
Austria 1998	(Leistungen der biologischen Vielfalt)	1
Austria 2005	Ökosystemleistung	1
Germany 2007	Ecosystem service	17
EU 2011	Ecosystem service	23
Switzerland 2012	Ökosystemleistung	46

At the same time that the **German strategy** was in the making, the results of the MA were published. Consequently, the German document (GNBS 2007) devotes a special chapter (F) to the implementation of the Millennium Ecosystem Assessment. The first part of the strategy hardly mentions the term, however. Nevertheless, the idea of services brought about by nature is presented. It is labelled as an economic argument and clearly appears as one argument among others (→ table 6.2). The term "Leistungsfähigkeit des Naturhaushalts" (service capability of ecosystems), though, is a traditional object of German conservation legislation that can be regarded as quite similar to "ecosystem services". It also conveys the message that a functioning nature delivers valuable "services" to humans.

The **EU strategy** apparently has a very strong link to ecosystem services which is already indicated in its title. Biodiversity is presented as "natural capital delivering ecosystem services" and it is associated with ecosystem services throughout the whole paper. All in all, the term is mentioned 23 times in the small, 16-page document.

Quite similarly, the **Swiss strategy** relies heavily on ecosystem services as a main argument. The section "Meaning of biodiversity for society" acknowledges both ethical and economic arguments for the conservation and advancement of biodiversity (SNBS 2012).

Table 6.2 Reference to ecosystem services in different strategies

ANBS 2005: 5, our translation Indirect reference to ES	The fundamental aim of the current strategy for protection and sustainable utilization of biological diversity is to raise awareness of and expand knowledge on the necessity and advantages of, or rather services provided by, biological diversity through initial and advanced trainings in all relevant areas.
ANBS 2005: 5, our translation Direct reference to ES	Apart from the intrinsic value of biodiversity and the moral responsibility of human beings to maintain this diversity, it plays a central role in the context of ecosystem processes and the ability of ecosystems to adapt to changed conditions (key word climate change) since plants, animals and micro-organisms exert an influence on materials cycles and the dynamics of ecosystems, thus controlling ecosystem functions as well as ecosystem services. Moreover, human beings are dependent upon many "products" of biological diversity, be these foods, building materials or natural ingredients in plants which can be utilized for medicaments, for example. Thus the loss of such diversity limits options for use by future generations.
GNBS 2007: 12 Indirect reference to ES	Nature provides us with a range of services which would otherwise need to be resolved by technical means, at great expense and with substantial effort.
GNBS 2007: 107-111 Extensive reference to ES	Chapter F: Implementation of the Millennium Ecosystem Assessment in Germany
ENBS 2011: 1 Strong link between biological diversity and ES	Biodiversity – the extraordinary variety of ecosystems, species and genes that surround us – is our life insurance, giving us food, fresh water and clean air, shelter and medicine, mitigating natural disasters, pests and diseases and contributes to regulating the climate. Biodiversity is also our natural capital, delivering ecosystem services that underpin our economy. Its deterioration and loss jeopardises the provision of these services: we lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing.
ENBS 2011: 2 Emphasis on biodiversity's economic value	2.2 Valuing our natural assets to deliver multiple benefits: The EU 2020 biodiversity target is underpinned by the recognition that, in addition to its intrinsic value, biodiversity and the services it provides have significant economic value that is seldom captured in markets. Because it escapes pricing and is not reflected in society's accounts, biodiversity often falls victim to competing claims on nature and its use.
SNBS 2012: 5, our translation Connection of biological diversity to ecosystem services	Biodiversity provides indispensable benefits for society and economic systems, so-called ecosystem services. The diversity of these services is immense; among other things, biodiversity provides sustenance, influences our climate, preserves the quality of water and air, is a component of soil formation and last but not least, it offers human beings room for recreation. Impairment of biodiversity leads to a reduction of such services and thus it also endangers a sustainable development of economy and society.
SNBS 2012: 16, our translation economic value of biodiversity	Apart from an ethical standpoint, a more or less economically informed perspective on the societal value of biodiversity has now established itself. This views biologically diverse ecosystems as important resources for human beings. The perception that ecosystems provide no-cost services such as preservation of clean air and water, soil fertility and pollination of wild and crop plants is gradually taking hold. The services provided by biodiversity are life-sustaining and according to current scientific knowledge not artificially replaceable even though they can be selectively substituted to a certain degree due to new technology..
SNBS 2012: 17, our translation Definition of values according to TEEB	In addition to these direct and indirect practical uses for ecosystem services, biodiversity also has an option value (possible future use), a bequest value (use for future generations through preservation) and an existence value (use based purely on the knowledge that intact ecosystems or certain species like the steinbock exist in Switzerland, for example).

6.1.2 "Ecosystem services" as a communication tool

The concept of ecosystem services is used in communication with a strategic purpose. It is intended to get the message across that biodiversity is valuable for many different reasons.

Efforts to capture the value of nature in economic terms are not new. The quest for ways to measure goods and services provided by nature in economic terms has been a field of academic inquiry for decades. What is new is that the conservation community, traditionally being sceptical about utilitarian approaches to nature, increasingly welcomes the approach as **a tool mainstreaming biodiversity politics and increasing its success** (→ box 6.1).

> "The conservation community is working toward the shared goal of ensuring that biodiversity in all its forms is maintained for the long term. We suggest that our chances of success will be vastly improved if ecosystem service science succeeds in restoring and reemphasizing the fundamental link between nature and human well-being." (Armsworth et al. 2007: 1384)

Box 6.1 Strategic reasons for the scientific study of ecosystem services

The MA defines ecosystem services as "benefits people obtain from ecosystems". It differentiates between supporting services which are the basis of all services delivered and provisioning, regulating, and cultural services.

The category 'provisioning services' refers to all direct benefits in form of products (food, fibre, water, genetic resources). Regulating services describe the capacity of ecosystems to control climate, water, pests and diseases in a way that benefits human uses. The category 'cultural services', finally, identifies non-material benefits that humans derive from nature. 'Cultural services' is a somewhat unfortunate umbrella term that comprises a very heterogeneous compilation of rather intangible benefits like cultural heritage, aesthetic experience, spiritual meaning and more down-to-earth benefits like education, recreation and tourism. Strictly speaking, not the services are cultural, but the benefits. Nature per definition cannot provide cultural services, only natural ones. The somewhat confusing label is due to the equation of "service" and "benefit" in the definition used by the MA.

→ Figure 6.1 shows the comprehensive concept of ecosystem services and their relation to different aspects of human well-being in the Millennium Assessment.

Ecosystem Services and their links to human well-being

Ecosystem services are the benefits people obtain from ecosystems. These include provisioning, regulating, and cultural services, which directly affect people, and supporting services needed to maintain the other services. Changes in these services affect human well-being through impacts on security, the basic material for a good life, health, and social and cultural relations. These constituents of well-being are, in turn, influenced by and have an influence on the freedoms and choices available to people.

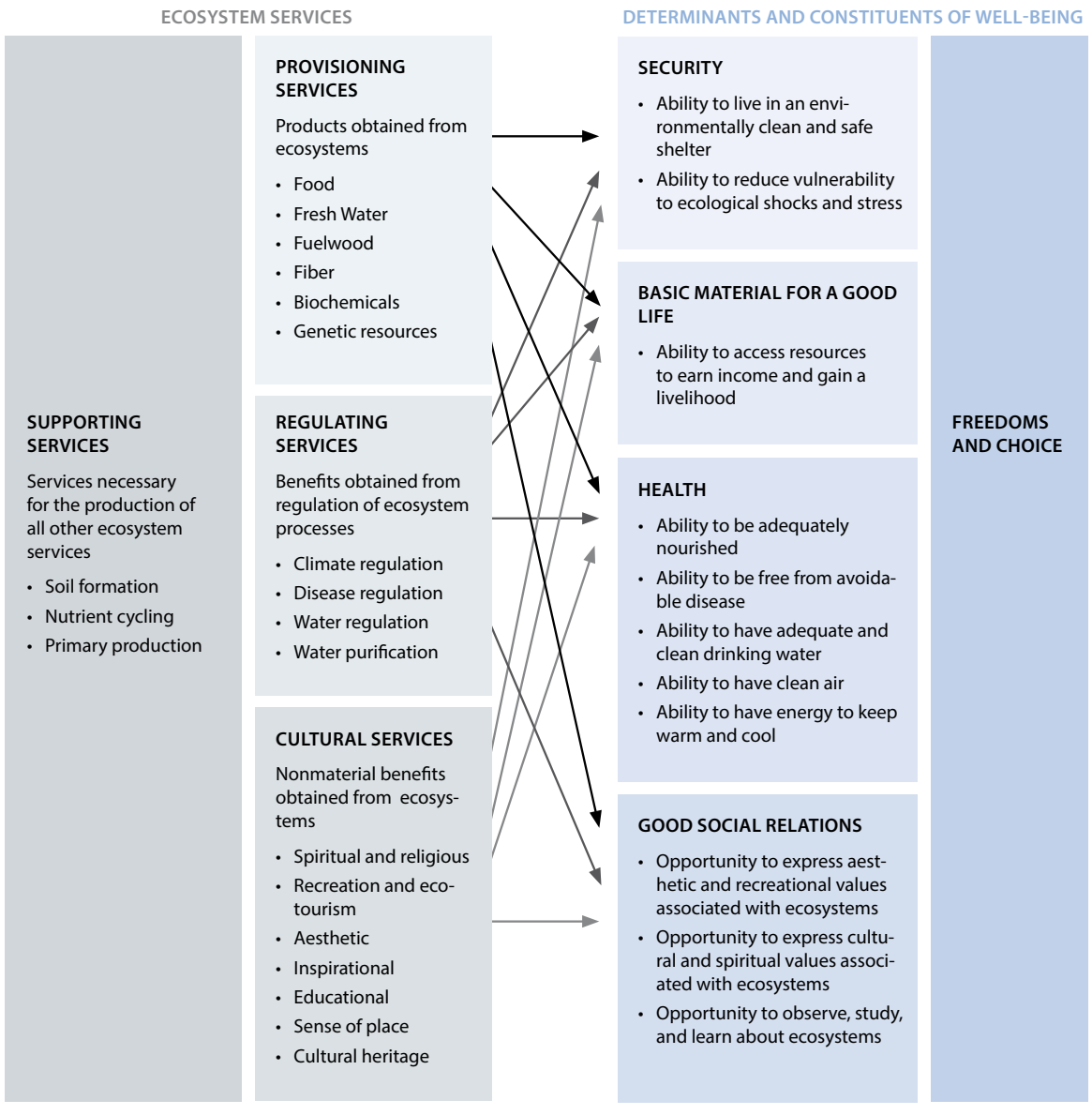

Figure 6.1 Ecosystem Services and their links to human well-being (MA 2005 Ecosystems and Human Well-being: A Framework for Assessment: 5; adjusted)

The Millennium Ecosystem Assessment has contributed a lot to the popularisation of the concept of ecosystem services. One of its synthesis reports is explicitly dedicated to biodiversity (MA 2005 BS). The biodiversity synthesis of the MA provides evidence for the claim that the contribution of biological diversity to human well-being is generally underestimated and that the concept of ecosystem services provides a valuable tool to assess human-made changes in biodiversity in terms of gains and losses (→ box 6.2).

"Biodiversity contributes directly (through provisioning, regulating, and cultural ecosystem services) and indirectly (through supporting ecosystem services) to many constituents of human well-being, including security, basic material for a good life, health, good social relations, and freedom of choice and action. Many people have benefited over the last century from the conversion of natural ecosystems to human-dominated ecosystems and the exploitation of biodiversity. At the same time, however, these losses in biodiversity and changes in ecosystem services have caused some people to experience declining well-being, with poverty in some social groups being exacerbated."

(MA, 2005, Biodiversity Synthesis, 5)

Box 6.2 Biodiversity's contribution to human well-being via ecosystem services

The possibility to name and quantify costs and benefits related to biological diversity is one reason why linking biodiversity to ecosystem services is considered a promising communication strategy. Scientists active in the field of ecosystem services regard their work as a contribution to political decision making. They want to make sure that societal decisions with regard to biodiversity are made "with the best available information" (MA 2005 BS: VI), assuming that the value of biodiversity is too often neglected in decision making. Making the costs and benefits of different options explicit is the overarching aim of the approach.

"The promise of ecosystem service analyses is that they will make explicit the costs and benefits of alternative actions to people" (Daily et al. 2009: 24).

It might therefore be said that the concept of ecosystem services is basically intended as a tool of effective communication that is able to address concerns of environmental justice in economic terms.

Besides supporting , provisioning and regulating ecosystem services, the Millenium Ecosystem Assessment identifies "cultural services". However, not the services themselves, but the (non-material) benefits that humans derive from nature are cultural.

6.2 "Selling out on nature" – Critics of the ecosystem services argument

Being used as a communication tool in favour of biodiversity politics, the concept of ecosystem services faces critique by some who share the goals of biodiversity conservation and of environmental justice, but are sceptical about the legitimacy and effectiveness of the tool. While the explicit link between biodiversity and ecosystem services is still gaining support from scientists and conservationists, articulate reservations among the conservation community exist too. "Selling out on nature" is the title of a commentary published in the prestigious journal *Nature* in September 2006 (McCauley 2006). In a nutshell, this title conveys widespread scepticism against the ecosystem services approach to biodiversity. Under closer scrutiny, this criticism entails a whole bunch of different arguments, namely technical (→ section 6.2.1), scientific (→ section 6.2.2), strategic (→ section 6.2.3), political (→ section 6.2.4), ethical (→ section 6.2.5) and moral objections (→ section 6.2.6).

6.2.1 Technical concerns

Technical concerns refer to the technical problem of getting the numbers right. Products and services that are not traded in markets don't have a price. How their economic value can be measured is therefore controversial. Methods of contingent valuation are not uncontested.

The technical concern is that economic arguments are only as strong as the numbers they present. It is therefore of major importance to get the numbers right. Using the typology created by the Millennium Assessment, provisioning, regulating and support services can quite easily be translated into monetary values. In these cases, ecosystems are valued instrumentally for the services they deliver. For example, if a wetland is drained and cannot function any longer as sewage we only need to find out what it will cost to build a sewage plant and know the price of this service. The assessment of so-called "cultural" services, the fourth group of the MA typology, is a far bigger challenge. Cultural services are fundamentally different from the other three groups because they provide non-use values. Non-use values are values derived from goods or services that don't imply use: ecosystems or their elements are valued for what they *are*, not for what they are good for. If people value a particular place, ecosystem, or species for cultural, biographical or religious reasons, it cannot be replaced by a "functional equivalent" when it is destroyed. It was this particular system that mattered to them, not just a general service. The trade of goods and services is based on equivalence of the use values of the traded goods. Goods and services with non-use value are not exchanged in a market so there is no price on them – numbers are not really reliable. With regard to the absence of a market, sophisticated methods of contingent valuation were developed to measure non-use-values, most prominently willingness-to-pay or willingness-to-accept analyses (→ chapter 3). However, the validity and reliability of data obtained by those methods is contested even among economists. For goods or services that don't have use value but rather non-use value, the attribution of monetary values is more arbitrary than for those that are – or at least could be – traded in markets.

6.2.2 Scientific concerns

Some scientists doubt the close correlation between biodiversity and deliverance of services, warning that the correlation has only been analysed for a few ecosystems. They caution that significant portions of biodiversity might be irrelevant for ecosystem services.

Scientific sceptics question the close relation between the biological diversity of an ecosystem and its ability to deliver services desired by society.

Independent of technical or strategic questions, scientific scepticism adresses the empirical question as to whether a system's ability to deliver services in fact depends on its diversity. Or, to but it the other way round, couldn't it be possible to lose significant amounts of biological diversity in a given ecosystem without losing the desired service? As one example of such criticism, the Swiss Academies of Arts and Sciences critically addresses the close connection between biodiversity and ecosystem services in its statement during the public consultation process of drafting the Swiss strategy. The authors emphasise that the relation between biodiversity and services has only been proven for a few ecosystems and they caution:

> *"A remarkable portion of biodiversity might be hardly relevant for ecosystem services " (Akademie der Wissenschaften Schweiz 2011, our translation).*

Another aspect of this scepticism is the phenomenon of redundancy: It might well be that some species could be functionally replaced. These connections have not been analysed thoroughly enough.

6.2.3 Strategic concerns

Strategically, the reliance on economic arguments can backfire. If technical replacements are less expensive than restoration of a natural service, some conservationists fear that they could run out of arguments.

A strategic argument refers to the worry that the ecosystem service approach might turn out to be a boomerang. "*The risk at advocating this position is that we might be taken by our word*" (McCauley 2006:28). Once we accept the premise that economic considerations determine the outcome of political decision making we also have to accept decisions that impair biological diversity in cases where substitution is cheaper than conservation. Justification of conservation efforts on the basis of the economic value of a given system is an argument in favour of biodiversity only if its conservation is less expensive than the construction of functional equivalents. As the costs for substitution depend on markets and technology, the value of a given ecosystem is subject to technical or economic changes. If functional equivalents become less expensive conservationists are in danger of running out of arguments.

6.2.4 Political concerns

Political criticism is addressed towards the apprehension that natural goods and services that used to be common have been turned into commodities.

Considerations of political economy refer to the charge of commodification, i.e. the transformation of originally non-marketable entities into commodities. This process might exclude those who are not able to pay for them from reaping their benefit. By subordinating all relations between humans and nature to the laws of the market, the argument goes, the economic valuation of biological diversity reaffirms a process that should be regarded as the root of many environmental problems rather than as their solution.

6.2.5 Ethical concerns

Ethical concerns refer to the eudemonic value of people's relationship with particular elements of biodiversity. This value cannot be appropriately conceptualised as service.

Ethical considerations arise from the fact that many people sustain relationships to particular elements or aspects of biodiversity (particular species, particular landscapes, wilderness etc.). These aspect are constituents of their good life. They have intrinsic eudemonic value and cannot be characterised as "use".

Hence, they are not appropriately conceptualised as instrumental values. It is the very essence of the idea of biodiversity that living systems are distinct, i.e. unlike each other. The whole idea of exchangeability that underlies economic valuation cannot be applied to objects that we value for what they are in themselves.

6.2.6 Moral concerns

Many conservationists consider living beings as ends in themselves. They may not be regarded as mere means to someone else's ends.

Finally, there are moral concerns about putting a price on biological diversity. Living organisms are seen as ends in themselves that cannot and may not be regarded as mere means. It has been shown that some respondents refused co-operation in contingent valuation because they considered the conservation of biological diversity "first and foremost a moral obligation" (Garcia-Llorente et al. 2011).

The ethical and moral concerns are the ones that we will analyse in more detail in the sections to follow.

6.3 Benefit without use: the contested meaning of instrumental value

6.3.1 What is "instrumental"?

The term "instrumental" denotes a relation of means and ends. A major source of misunderstanding is the fact that people sustain relationships to nature that cannot be characterised as instrumental. We suggest restricting the term "instrumental" to those kinds of relations where the focus of interest is the aim and not the instrument.

"The contracting parties, *Conscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components (...) have agreed as follows:*" This is the very first avowal of the Convention on Biological diversity. This statement clearly regards "intrinsic value" as being different from all other values mentioned. There's intrinsic value on one hand and different kinds of (non-intrinsic) values on the other. "Intrinsic value" in the CBD refers to the value that biological diversity has in itself and for itself, whereas all the other values are values that biodiversity has for humans.

Linguistically, the term "intrinsic" denotes the opposite of "extrinsic". While "intrinsic" means value "in itself", "extrinsic" means value for an external good. Value for something is generally referred to as instrumental value. However, what exactly is considered "instrumental" and "intrinsic" differs among disciplines and schools of thought. To economists and adherents of utilitarian ethics, all values that provide *any* benefit for humans are considered instrumental values. In the economic framework, instrumental values are not restricted to direct-use values. Aesthetic, spiritual, and even existence values are also regarded as instrumental values because they induce pleasure in humans or other sentient organisms (Justus et al. 2008). Bernd Hansjürgens also refers to this broad concept of instrumental value in this report (→ chapter 3).

This understanding is illustrated in the first line of → table 6.3, where the term "intrinsic value" is restricted to those values that bear no reference to humans at all. If one places intrinsic value without reference to humans on the one side, and all values that in one way or another refer to human needs, desires, emotions or preferences on the other side of the divide, the second group, all non-intrinsic values, appear as "instrumental values" (→ table 6.3).

In contrast to this approach, our study favours a more restricted use of the term "instrumental". To value an entity instrumentally means to value it as a means to an end. What is really valuable here is the end; the entity is merely an instrument to realise this end. It can therefore be exchanged for another instrument that fulfils the same purpose (which is the basis for attachment of an exchange value). Aesthetic, spiritual and emotional values, we argue, are of a different kind. Sure enough, they are constituents of human well-being. But they lack a trait that is essential to instrumental value: They cannot be substituted. Human beings sustain particular relationships with particular elements of their environment – and these "significant" others cannot be exchanged for "any" others. In accordance with Angelika Krebs (2005) and Konrad Ott (2007) one can call these types of intrinsic values 'eudemonia values'.

The heterogeneous use of the terms "intristic value" and "instrumental value" is one major source of misunderstandings in the debate about ecosystem services.

As we argued in → chapter 4, we do not draw the line between intrinsic values and non-intrinsic values related to humans in this study, but between instrumental valuation and non-instrumental valuation (→ table 6.3). We propose that it is reasonable to consider some kinds of intrinsic values to be opposed to

instrumental values but still related to human practices that are not interested in use. The prototype of such a practice is aesthetic experience. More generally, these kinds of values contribute to the Good Life of humans without being mere "means to ends".

In this vein, Eser & Potthast (1999) have distinguished between "Eigenwert" (intrinsic value, value in itself) and "Selbstwert" (inherent value, value for itself). In this terminology, intrinsic values relate to human well-being but not as means to ends, but as ends in themselves. Inherent value, on the other hand, is regarded as being attributed to non-human beings or entities without any reference whatsoever to their impact on humans. While in 1999 we marked this difference by the labels "inherent" and "intrinsic", we refrained from the use of these terms in Eser et al (2011), because their use in environmental ethics is so heterogeneous and sometime even contradictory that they confuse rather than clarify the debate.

Recently, Barbara Muraca (2011) has suggested a new axiological matrix that completely dismisses the distinction between the intrinsic and instrumental as a major divide. Instead, she draws the line between intrinsic values on the one side and relational values on the other. Both, instrumental values and eudemonia values, are related to human valuers. Muraca

Table 6.3 Different ways to group intrinsic and instrumental value as a source of misunderstandings

CBD	Intrinsic value	Ecological, genetic, social, economic, scientific, educational, cultural, recreational, aesthetic values	
Total economic value	Intrinsic value	**"INSTRUMENTAL VALUES"**	
	Moral intrinsic value	Non-use values Bequest, altruist and existence value	Use-values **Consumptive:** crops, livestock, fisheries…. **Non-consumptive:** recreation, well-being, research, education
This study (as in Eser et al 2011)	**NON-INSTRUMENTAL VALUES** Moral intrinsic value "Selbstwert" Value in itself for itself	Eudemonic intrinsic value "Eigenwert" Value in itself for the good life of humans (spiritual, cultural, biographic, aesthetic, symbolic value)	**Instrumental values** Use value "Gebrauchswert" Value as means to an end
Eser & Potthast 1998	"Inherent value"	"Intrinsic value"	
Ott 2010	Moral value	Eudemonic value	Functional value
Muraca 2011	Intrinsic value	**RELATIONAL VALUES**	
		Fundamental-relational cultural, symbolic	**Functional-relational** Intrinsic eudaimonistic necessary conditions of a good life Instrumental

therefore calls them "relational values". While entities with merely instrumental value are valued for the purpose they fulfill, entities with intrinsic eudemonic value are valued for what they are in themselves – hence "intrinsically". In contrast to these relational intrinsic values, moral intrinsic value is constituted not by an external valuer, but by entities that are ends in themselves because they are centres of teleological orientation (Muraca 2011).
This kind of "intrinsic value" accounts for direct moral obligations, it denotes moral intrinsic value in the narrow sense. Relational values are further sub-divided into "fundamental-relational" and "functional-relational" values. "Instrumental values" are then considered a further sub-category of functional-relational values, the other being "intrinsic-eudaimonistic values" – with both of them, however, being relational values. Hence, there is a group of values that are neither "intrinsic" in the strict sense nor "instrumental" in the strict sense but eudaimonistic – and this is the very group that we called "Eigenwert" (again see → table 6.3).

6.3.2 Can "non-use" be useful?

The concept of use is crucial for communication aimed at mutual understanding. In economy, any expressed preference is equated with use. Such a concept conflicts with the commonplace experience of people. Human cooperation often requires refraining from personal benefits for the benefit of others – this altruist motivation is not captured by the term use.

The heterogeneous use of the terms "intrinsic value" and "instrumental value" is one major source of misunderstandings in the debate about ecosystem services. On one side of the axiological spectrum is intrinsic value as value of entities that are ends in themselves. On the opposite side of the spectrum, there are instrumental values, i.e., values of objects as means to someone's ends. But between those relatively uncontested poles there is a group of values that can either be conceptualised as instrumental or as non-instrumental, depending on the concept of use one has. In this group fall most of the so-called "cultural services". They are either subsumed under the category "instrumental" (e.g. by Justus et al. 2008 or by Hansjürgens in this volume) or under the category "non-instrumental" (like Sagoff 2009 or Eser et al. 2011). Hence, depending on which system people use, they disagree on the evaluation although they actually mean the same kind of human experience or activity.

One source of this misunderstanding is the specific meaning of the term "use" in economics. In economy, values are regarded as expressions of preferences and preferences are associated to self-interests. Julian Nida-Rümelin (2011, 108ff.) argues that such an understanding is an improper representation of human decision making. Humans can (and actually often do) prefer actions that benefit others to actions that would benefit themselves. In such cases, "preference" cannot be adequately equated to "self-interest".

The concept of total economic value as presented by Bernd Hansjürgens in chapter 3 as the basis for the TEEB study explicitly seeks to overcome a too narrow understanding of use:

> *"The concept of economic value is considerably broader and it clearly includes more values than non-economists are often likely to believe. The values extend far beyond a narrow notion of use in the sense of direct advantage" (p. 54).*

This extension comprises the so-called non-use values, namely "philantrophic value" and "altruism to biodiversity" (see → figure 3.1).

From our philosophical perspective, however, this extension is not convincing. Many environmentalists would deny that their preference to conserve biological diversity for future generations is grounded

in their personal "satisfaction of knowing that future generations will have access to nature's benefit". They would argue that we do not have the right to impair the living conditions of future generations – whether we like this restriction or not. The same is true for "altruist value": For people in the developing countries the reason for equitable sharing of the benefits of biological diversity is not our "satisfaction of knowing that other people have access to nature's benefits" – but their human right to a decent living. In our opinion, matters of right and wrong cannot be captured in "economic value".

In addition, it remains unclear how the aspired integration of use-values and non-use values is to be achieved. Appropriate measures that would allow us to balance use values against non-use values are not in sight. Communication of the economic value of biodiversity and ecosystem services is therefore often reduced to the listing of monetary values – which thereby excludes all kinds of valuation that cannot be convincingly expressed in monetary units.

The communication of the economic value of biodiversity and ecosystem services is often reduced to monetary values. Against its broad intentions, it tends to miss the kinds of valuation that cannot be convincingly expressed in monetary units.

6.4 Limits of the economic framework: Relations are not commodities

6.4.1 Non-material benefits as cultural services

Cultural services do not refer to natural entities but to human persons: "Beauty is in the eye of the beholder". The subjective dimension determines their value.

This last section focuses on the category of the so-called cultural services. Cultural services shall represent the non-material benefits people obtain from ecosystems. In particular the MA names the following:

- spiritual and religious
- recreation and ecotourism
- aesthetic
- inspirational
- educational
- sense of place
- cultural heritage

What all given examples have in common is that the services are not simply "delivered" by natural entities, but rise from a particular way in which humans relate to nature. One might say that the term focuses on the *subjective* dimension of experiencing nature – or oneself within nature – in particular ways.

In fact, most of the services mentioned do also provide material benefits: For example, an ever increasing number of people are trying to make a living from eco-tourism and entrance fees for natural and cultural monuments can surely count as material benefits.

Nevertheless, we will concentrate on the non-material benefits in this section. We argue that the concept of "service" is inappropriate for characterising these benefits because cultural services do not pertain to specific aspects of nature but to a specifically human way of relating to it– aesthetically, spiritually, emotionally – but by no means instrumentally. Hence, the service is neither attached to particular objects nor to particular activities but to particular mind sets of human beings relating themselves to nature. Let's illustrate the difference with an example:

eXample

I can walk through the woods in order to get from A to B with no interest at all for where I am and what I am doing. The walk is then an "instrument" to reach my destination. If there were a shorter way, I would rather use that. Similarly, I can also walk through the woods because I want to clear my head and have spent too much time sitting at my desk writing this report – I then seek recreation and the walk through the woods is an instrument to achieve it. If the weather is bad I could just as well lie down and take a nap – what matters is the respite, not the woods. In short: In an instrumental relationship it is the service that matters, and not the servant.

Unlike being in such an instrumental relation, you can also walk through the woods behind your house because you like the experience of being there. Maybe you feel connected to the place because you've known it for many years. Maybe you're a birder and want to find out if last year's nest is inhabited again. Maybe you seek the tranquillity of the woods as contrast to the hectic of your everyday life… People who engage in such aesthetic or emotional relations to particular aspects of nature do not follow a goal that could be separated from those aspects. Unlike economists, we would *not* call this an instrumental relation. In admiring, contemplating or studying nature, people maintain subjective relations with particular landscapes, ecosystems or species. These personal relations cannot adequately be addressed

In admiring, contemplating or studying nature, people maintain subjective relations with particular landscapes, ecosystems or species that cannot adequately be addressed in terms of services.

in terms of services. The reason is simple: What matters to them is the "servant", not the service.
Note well that the subjective dimension is independent of detached usefulness. If I spend many hours in the outdoors because I'm interested in a specific butterfly this might also contribute to my health. The crucial difference is that this contribution is not the reason for my action. My personal subjective value is probably much higher than the extrinsic value of the contribution to my health.

6.4.2 Emotional bonds are priceless

The personal relevance of cultural services is strictly subjective. Therefore it cannot be captured by objectifying methods. The subjective and the inter-subjective value of cultural services differ.

One can illustrate the significance of the subjective dimension of value by comparing the concept of ecosystem services to a concept of family services: Obviously, one can list and add all kinds of services that are provided in a family (provisioning services, regulatory services, or emotional services). One can then find out what services like cooking, housekeeping, child-care, coaching etc. would cost if purchased on the market. And one would certainly end up with an impressive number that would show how the economic value of so-called reproductive work is dramatically undervalued in our economy. Such a number may be an important tool in political decision-making. However, it would by no means be an appropriate measure for what this family means to its members. They are connected to each other by emotional bonds that are priceless.

When we are engaged in a relationship, one decisive element of economic valuation is not given: There is no functional equivalent. This fact sets a boundary to monetary valuation. Without willingness to exchange there is no (adequate) pricing. In an emotional relationship it is the particular other who matters in his particularity, not his or her general function. For example, insurances calculate financial compensation for the victims of an accident by determining the sum of lost income on the part of the person injured or killed. However, the subjective harm of a person seriously injured can be much higher than her loss of earning. In case of fatal casualties, financial compensation is experienced as a completely inadequate measure by the bereaved. This is true not only for relationships with humans but also with non-human living beings. When their beloved guinea pig dies, your children won't find comfort in the assurance: We'll buy you a new one. Even if, finally, they'll accept a new animal and build a new relationship, it'll be a different relation to a different animal that can be regarded as compensation only in a weak sense.

It can reasonably be supposed that the widespread scepticism among conservationists against the ecosystem services approach has to do with this difference: relationships do not equate services, and relationships are not commodities. In fact, this subjective dimension could explain the above mentioned protest respondents in contingent valuation: People who maintain a caring and respectful relation with nature do not regard it as a tradable good whose value can be captured by a price.

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7 "WE ARE ALL IN THIS TOGETHER"

What is biodiversity? How are we humans connected to it? Biodiversity is nature in all its forms, it is made up of all living organisms. That means all the ecosystems with all the plants, animals and microorganisms living in them, but also the genes of these species and the links between them. It is the foundation of life. The dance of a bee around a flower. Frogs jumping on the water. Worms writhing in the soil. And you, watching all this as you walk in a meadow.
We are all in this together.
EU biodiversity campaign 2010

"We are all in this together" – this slogan is not only the title of a biodiversity campaign launched by the EU in 2010. It is also the heading of Chapter 4 of the EU strategy (ENBS 2011) that is concerned with creating partnerships for biodiversity and awareness raising. In this chapter it serves as an example for the need to be more specific about **matters of Justice** in biodiversity communication. Using the slogan quoted above as a point of departure, we will critically debate its message. By asking *who* exactly is meant by "we" it will be shown how matters of justice stay in concealment behind this prudential façade. Contrary to the suggestive slogan, the loss of biodiversity does not concern everybody equally. Some people will profit while others might lose. Some possible benefits of biodiversity will be realised at the expense of others, who will be compromised.

1. The first section cites **examples from the different strategies** that name justice issues and shows how these are in danger of being concealed by a collective wording (→ section 7.1).
2. The next section focuses on the **international dimension** of environmental justice (→ section 7.2).
3. **Trade-offs between use values and non-use values** are treated in → section 7.3. We argue that the win-win-rhetoric neglects the fact that some benefits arising out of the use of biodiversity can only be realised at the expense of other non-use related benefits.
4. The following section (→ section 7.4.) expands on **unequal distribution of costs and benefits** between today and tomorrow. Only by naming all costs and benefits involved as well as their distribution among nations, between nations and between generations, we argue, can issues of environmental justice be appropriately addressed.
5. Finally, → section 7.5 addresses the particular ways in which **non-human species** are considered in the campaign.

The campaign's focus on the interconnectedness between human and non-human living beings builds the bridge to arguments of the Good Life that will then be treated in the following chapter.

7.1 Collective rhetoric conceals issues of justice

The Citizen's Summary that accompanied the publication of the EU strategy in May 2011 provides a typical example for the effort to communicate biodiversity strategies as win-win-scenarios: According to this communication, everybody is going to benefit from the implementation of the CBD: the economic sectors depending on biodiversity, all European citizens in one way or another and non-European people because the EU "helps" them to protect their biodiversity (→ box 7.1).

"Who will benefit and how?

Europeans working in sectors that depend on biodiversity and ecosystem services. All European citizens – because we all benefit directly and indirectly from the goods and services that nature provides. People outside the EU – as the EU helps to avert global biodiversity loss."

(ENBS 2011, Citizen's summary)

Box 7.1 All people benefit from the biodiversity strategies

If this really were the case, one might wonder why a communication effort is needed at all to get implementation going. As a matter of fact, there are people and economic sectors who resist the implementation of biodiversity strategies precisely because they worry (and probably rightly so) that the measures needed for conservation and sustainable use might have a negative impact on their personal benefits. This is true not only for the sectors directly depending on biodiversity (agriculture, fishery, forestry) but also for groups that live in protected areas and see their access to infrastructure and economic development endangered. The alleged identity of "our" benefits neglects important differences between different groups and countries within Europe as well as between European countries and countries outside of Europe. In particular, it ignores the fact that the wealthiest people, whose consumption is in part responsible for the deterioration of the environment, do not bear the consequences, but the poorest do (→ box 7.2):

"The world's dominant consumers are overwhelmingly concentrated among the well-off - but the environmental damage from the world's consumption falls most severely on the poor."

(Human Development Report 1998: 4)

Box 7.2 Unequal distribution of consumption and environmental damage

7.1.1 On the difference of individual and collective interests

Debate about potential or even probable conflicts is evaded by sticking to a phrasing that lumps all the diverging groups and interests together under one supposedly collective but imaginary subject called "we all". The German philosopher Julian Nida-Rümelin (2011) explains this phenomenon by distinguishing between the collective meaning of "all" and the distributive meaning of "all". To be able to differentiate them, he indexes these different meanings as all_c (c=collective) and all_d (d=distributive). While the first refers to "we" as "all of us together", the second refers to "we" as "each and every one of us". According to Nida-Rümelin, the confusion between these two concepts of "all" makes room for ideology and conceals possible conflicts of interests. "*The collective interest of all is not identical with the distributive interest of all*" (Nida-Rümelin 2011: 74, our translation). Even if it is certainly in the interest of all_c to follow a certain rule, all_d can still have an interest in neglecting the rule.

The "we" in "We are all in this together" is clearly of the collective kind. The sentence states the interconnectedness of human beings and non-human beings as a matter of fact which nobody can seriously dispel. However, the fact that it might nonetheless serve particular interests of individual persons or groups to save the lion's share of this collective good cannot be recognized as long as we use the collective notion of "we".

7.1.2 Collective and differentiated interests in the strategies analysed

In prudential arguments, biodiversity policies are presented as a matter of human self-interest, regardless of possible conflicts of interest. However, all strategies also do mention the particular responsibility of European countries for global biodiversity decline and its reversion.

The slogan that serves as the title for this chapter is exemplary for the characteristic style of the strategies and communication material analysed. By and large, they speak of all_c and neglect potentially conflicting interests of all_d (→ table 7.1)

However, there are laudable exceptions in all strategies that dispel the collective rhetoric and explicitly state responsibilities and interests of different groups (→ table 7.2). The following table presents such examples. Most of the quotes that address differences within the collective "we" (all_c) refer to the issue of access and benefit sharing (ABS). Predominantly, ABS is represented as a negotiating concession to the interests of the South, i.e., as an argument of Prudence. In some sections, however, the particular responsibility of European countries for global biodiversity is mentioned in the papers as well. This responsibility is rightly presented as resulting from the ecological as well as economic impact which the countries of the North have on people and biodiversity in the South.

In chapter one, we have suggested applying coherence and consistency as basic criteria for successful communication. With regard to this demand, special concern has to be given to inconsistencies within strategies and between strategies and the correlating communication measures. Emphasis on a country's national interest in the use of biodiversity worldwide (as e.g. SNBS 2012: 65) represents an argument of Prudence. In contrast, the acknowledge-

Table 7.1 Examples for use of collective subjects

Source	Quote	Collective subject
ENBS 2011: 1	Driven mainly by human activities, species are currently being lost 100 to 1,000 times faster than the natural rate:	"Human activities"
EU 2011, citizen's summary	A new biodiversity strategy running until 2020 – to conserve and enhance natural assets and manage them sustainably ensuring nature delivers what we need.	"We"
EU 2011 press release	Biodiversity loss costs billions to the global economy every year, undermining economies; business prospects and opportunities to combat poverty.	"The global economy"
SNBS 2012:19. our translation	All in all, humankind has consumed more natural resources since the mid-1980's than the earth has been able to regenerate	"Die Menschheit" (Humankind)
SNBS 2012:17. our translation	Biodiversity is the basis of ecosystem services, which are of essential importance for human well-being. Human beings take measures to preserve and promote biodiversity in order to sustain ecosystem services..	"Der Mensch" (Man)
GNBS 2007: 6	Modern society and the economy are dependent upon the use of nature	"Modern society" and "the economy"
ANBS 2005:5 our translation	Moreover, human beings are dependent upon many products of biological diversity.	"Der Mensch" (Man)

ment of the negative impact of European modes of life on biodiversity elsewhere exhibits a different take. In application of the polluter pays principle, this acknowledgement recognises responsibility and hence asserts an argument of Justice.

"The collective interest of all is not identical with the distributive interest of all."

The said is also true for economic arguments. Economically valuing the billions gained or lost by biodiversity reduction only makes sense if those billions are attributed to particular persons or groups. The "global economy" (EU press release) is a collective subject that does not exist; the costs of biodiversity losses are to be paid by individual countries, people, or institutions.

Table 7.2 Differentiated interests and responsibilities

Source	Quote	Type of argument
ANBS 2005: 71 our translation	This demand [ABS] is of special significance for developing countries because the majority of the world's biological diversity lies in these nations and yet it is often so that the use which the development of new varieties of seeds or medicaments could provide, for example, is not shared with the countries in which the utilized organisms originate.	Unequal distribution of benefits → Justice
ANBS 2005: 75 our translation	Protection of biodiversity is [...] not primarily a technical or scientific problem but rather a social one which is highly interconnected with the way subsistence functions and with land rights and human rights (in particular those of local populations and very often women). The reasons for global loss of biological diversity are very similar to those which are responsible for poverty in the developing countries.	Biodiversity loss as a matter of human rights → Justice
GNBS 2007: 47	Worldwide, on average, the people in industrialised countries use four times as many natural resources as people in developing countries. Responsible conduct by German industry and consumers can make a significant contribution towards conserving biological diversity worldwide, and thus counteracting the risks associated with globalisation for biodiversity worldwide.	Overconsumption of industrialised countries → Justice
GNBS 2007: 104	Non-sustainable production and consumption patterns in industrialised countries are among the main culprits for the worldwide loss of biological diversity.	Nonsustainable life style → Justice
GNBS 2007: 101	The escalating loss of biological diversity therefore poses a growing threat to the basic economic, social and cultural necessities of life for some of the world's poorest people. For example, living in poverty often forces people to overexploit natural resources, leading to the destruction of the biodiversity around them.	Biodiversity loss increases poverty and vice versa → Justice
ENBS 2011: 3	The EU's ecological footprint is currently double its biological capacity.	EU impact on non-EU countries → Justice
ENBS 2011: 7	This requires taking action within the EU, but also at global level since the EU derives significant benefits from global biodiversity and is at the same time responsible for some of the loss and degradation that occurs beyond its borders, notably due to its unsustainable consumption patterns." (emphasis added)	EU's responsibility for global biodiversity loss → Justice
SNBS 2012: 65 our translation	Switzerland is dependent upon the preservation of its own domestic as well as global biodiversity to ensure its economic and social well-being. Ensuring the stability of ecosystems worldwide is in the interests of Switzerland. Thus efforts made at the international level up to now must be intensified.	Switzerland's interest in global biodiversity → Prudence
SNBS 2012: 20 our translation	Since the middle of the last century, consumption of resources has increased acutely in Switzerland. The environmental burden which is generated in foreign countries by domestic final demand is considerably higher than the environmental burden placed on the country itself. [...] Production of raw materials, manufacture, consumption, disposal and recycling of these goods all have – direct or indirect – effects on global biodiversity.	Switzerland´s impact on global biodiversity → Justice

7.2 International cooperation

As we have argued in → section 4.4, global justice is an issue prominently featured in the CBD. The "fair and equitable sharing of the benefits arising out of the utilisation of genetic resources" (CBD, article1) is one of the CBD's three equally important goals. Given this prominent status of matters of global distribution, arguments concerning global justice are relatively rare in strategic communication on biological diversity. Measures of financial or technological transfer are represented as either a matter of Prudence ("The stability of ecosystems worldwide is also in Switzerland's interst") or a matter of charity ("the EU helps to avert global biodiversity loss") than a matter of Justice.

Access and benefit sharing was initially set on the global agenda by the biodiversity rich but economically weak countries. In chapter one we argued that it is exactly the integration of environmental and developmental concerns that marks the basic difference between biodiversity politics and classic nature conservation (→ section 1.2). This integrative achievement of the politics of biodiversity does not become evident in most of the strategies. Rather, the "fair sharing of benefits" generally remains a somewhat alien element in the context of the other parts of the strategies. Instead of presenting conservation, sustainable use and fair sharing of benefits as intrinsically linked aspects of biodiversity politics, the "fair sharing of benefits" mostly appears as a mere add-on to the proper aims of conservation and sustainable use, as the following analysis of the different countries shows.

7.2.1 Access and benefit sharing (ABS)

Access and benefit sharing appears either as a matter of Prudence or as a matter of charity. Only rarely it is explicitly addressed as a matter of retributive justice.

"Addressing the EU's contribution to global biodiversity loss" presents one of the six main targets of the **EU strategy** (ENBS 2011:7): "By 2020, the EU has stepped up its contribution to averting global biodiversity loss." However, the wording in section 3.5 "Addressing the global biodiversity crisis" remains quite vague:

> *"Through this strategy, targeted efforts will strive to alleviate pressure on biodiversity emanating from the EU while contributing to greening the economy in line with EU priorities for the 2012 United Nations Conference on Sustainable Development. The EU will also need to meet specific COP10 commitments relating to resource mobilisation and implement the Nagoya Protocol on ABS if it is to continue to lead international biodiversity policy" (ENBS 2011: 7).*

The last sentence, in particular, can be read as a fairly half-hearted commitment to a negotiated agreement. With regard to the admitted impact of European societies on global biodiversity, the EU does not only need to meet COP10 commitments "*if*" it wants to remain leading in international biodiversity policy. Morally speaking, it has to meet this commitment as a matter of restorative justice. This means: According to the polluter-pays principle it can be expected that countries who admittedly caused severe losses of global biodiversity and thus benefited from those losses will contribute significantly to its restoration and conservation.

The **German strategy** dedicates a whole chapter (E) to "Eradicating poverty and promoting justice". This chapter explicitly acknowledges the impact of German industries and consumers and states the need for more sustainable modes of production and consumption (→ box 7.3):

"Worldwide, on average, the people in industrialised countries use four times as many natural resources as people in developing countries." (GNBS 2007: 47)

Box 7.3 Acknowledgement of the particular responsibility of industrialised countries in the German strategy

Global issues are also addressed in the main chapters B and C. In the concrete vision (B), section B 2 concerns the sustainable use of biological diversity. "Effects of German activities on biological diversity worldwide" are explicitly addressed in paragraph B 2.3. The chapter on genetic resources (B4) features a section on "equitable sharing of benefits". "Access to genetic resources and fair sharing of benefits"(C5) is one out of 16 action areas (chapter C). Another is "Combating poverty and development cooperation" (C16). On the one hand, it is surely laudable that the strategy dedicates several sections and paragraphs to global issues. On the other hand, however, this has the unfortunate consequence that the other chapters leave global issues largely unaddressed. For example agriculture, mobility and tourism have global correlations that don't get mentioned. Therefore, possible conflicts of goals, e.g. increasing independence of food imports and decreasing intensity of agriculture, cannot be addressed.

The **Swiss strategy** features a chapter (3) on "biodiversity in international context" with a section on global interdependence (3.2). This section not only mentions the dependence of some Swiss sectors (agriculture, pharmaceutical industry, science) on imports of genetic resources but also explicitly addresses reverse impacts of Swiss activities on global biodiversity. By quoting a study by Jungbluth et al. (2011) it asserts that environmental impacts of Swiss consumption abroad exceed impacts on inland biodiversity (SNBS 2012: 21, see → table 7.2). However, section 7.9, which presents "Strengthening of international engagement" as one out of ten strategic goals, portrays national interests of Switzerland as the foremost reason for Switzerland's global engagement: Its introductory paragraph states that Switzerland's "economic and social welfare" depend on the conservation and sustainable use of global biodiversity. While the introductory chapter "Biodiversity in global context" can be read as an argumentation of Justice, section 7.9 presents ABS as a matter of Prudence. Possible conflicts of interest between those diverging argumentations are not addressed. If one accepts the claim that Switzerland's prosperity, at least in part, depends on global biological diversity it could be expected that a fairer sharing of benefits on the global scale might affect economic and social welfare on the national scale. Such a consequence might be unpleasant and it might not increase acceptance of the strategy. For strategic reasons it may therefore be sensible not to mention possible negative consequences. From an ethical perspective, however, truthful communication on matters of global interconnectedness should not evade inconvenient topics. Even strategically it may be recommendable to be honest about those correlations. If we sell biodiversity strategies as win-win-scenarios we risk losing support as soon as people realise that some economic sacrifices will be needed.

The **Austrian strategy** presents "international cooperation" as one out of five core areas of action. In contrast to the Swiss strategy, the Austrian text presents the fair sharing of benefits as a demand that is of particular relevance for the developing countries. It explicitly concedes that benefits of the use of genetic resources to date are often not fairly shared with the countries of their origin. Consequently, the rights of indigenous peoples with regard to their traditional knowledge are part of the argumentation. Also, awareness raising among those who profit from traditional knowledge for the related problems is part of the suggested measures. A special paragraph on development cooperation (2.5.3) integrates biodiversity policies and the larger framework of sustainable development and clearly points out the relation between biodiversity loss, human rights and social justice (see → table 7.1).

7.2.2 Poverty reduction

The emphasis on national interests may not obscure global responsibilities. European modes of production and consumption have a higher impact on global biodiversity than those of the global poor. European responsibility for global biodiversity is therefore a matter of Justice.

Like the German strategy, the Austrian strategy presents poverty reduction as part and parcel of biodiversity policies – this being an issue that gets less attention in the European and Swiss papers. In both papers, conservation and sustainable use are presented as a means to the ends of human and social development in the developing countries. At the same time, development and poverty reduction are understood as means to the ends of biodiversity conservation. While both of these relations may be right, the first relation is the overriding argument from an ethical perspective. The demand that every human being in every part of the world should be ensured access to the biological resources needed for a minimum life standard is well founded by the argument that biological resources are a precondition of human freedom, which is an end in itself. It does not need to be substantiated by further aims.

We argued in chapter four that the dominance of a prudential argumentation tends to obscure matters of justice (→ section 4.2). Unfortunately, this is often the case with regard to the global aspects of biodiversity. The reference to European or national self-interests – as reasonable as it might be for strategic reasons – helps to obscure another "inconvenient truth": While countries in Europe may be characterised as consumer societies – if not waster societies – there are many regions in the world where people are far from reaching even a minimum life standard. Serious biodiversity communication needs to address these inequalities (→ box 7.4).

The consumption-poverty-inequality-environment nexus

Today's consumption is undermining the environmental resource base. It is exacerbating inequalities. And the dynamics of the consumption-poverty-inequality-environment nexus are accelerating. If the trends continue without change — not redistributing from high-income to low-income consumers, not shifting from polluting to cleaner goods and production technologies, not promoting goods that empower poor producers, not shifting priority from consumption for conspicuous display to meeting basic needs — today's problems of consumption and human development will worsen.

[…] The real issue is not consumption itself but its patterns and effects. […] Inequalities in consumption are stark. Globally, the 20% of the world's people in the highest-income countries account for 86% of total private consumption expenditures — the poorest 20% a minuscule 1.3%. More specifically, the richest fifth:

- Consume 45% of all meat and fish, the poorest fifth 5%
- Consume 58% of total energy, the poorest fifth less than 4%
- Have 74% of all telephone lines, the poorest fifth 1.5%
- Consume 84% of all paper, the poorest fifth 1.1%
- Own 87% of the world's vehicle fleet, the poorest fifth less than 1%

Runaway growth in consumption in the past 50 years is putting strains on the environment never before seen.

Box 7.4 The consumption-poverty-inequality-environment nexus (Human Development Report 1998: 2)

The discrepancy between European living standards and poverty in other regions of the world is not merely an unfortunate coincidence. Rather, our European level of consumption and modes of production have environmental impacts on other regions in the world. Being one cause of a decline in biodiversity worldwide, the European way of living constitutes a responsibility for action in favour of global biodiversity that goes beyond mere Prudence or charity. It is a matter of Justice.

7.3 Trade-offs between use and non-use benefits

Collective language is not only capable of obscuring conflicts of interest on an international scale. It can also conceal conflicts of interest within a country, namely conflicts between consumptive and non-consumptive modes of relating to nature.

When biodiversity strategies and the accompanying communication address matters of justice they do so predominantly with regard to access and benefit sharing and international responsibilities. The fair distribution of benefits is generally discussed in sections explicitly concerned with global issues. This restriction of the problem of justice to the global level has its drawbacks: Issues of environmental justice on the national level tend to remain unrealised in all strategies analysed.

The concept of environmental justice draws our attention to the fact that conservation and sustainable use of biodiversity bring about benefits as well as costs. Key questions with regard to environmental justice concern distributive (1), retributive (2) as well as procedural (3) aspects:

1. How are costs and benefits of biodiversity conservation distributed among the population?

2. How can people, who refrain from individual use options for the benefit of the community be compensated? And vice versa: What compensation can the collective ask for from individuals who privately benefit from the use of a piece of land at the expense of the collective?

3. Who gets the right to use a particular piece of nature for a certain purpose thereby compromising other use-options or the option to refrain from any use? How and by whom is this question decided?

As long as the aim of biodiversity policies is presented as ensuring that "nature delivers what we need" (ENBS 2011, Citizen's summary) these important questions cannot be addressed. Different people "need" biological diversity for different purposes, and not all of them are of the consumptive kind. Besides use options that literally involve consumption of biological diversity (e.g. land consumption) there are use options that merely involve changes in biodiversity (e.g. agriculture, which can increase or decrease natural biological diversity) and others that hardly have any impact on biodiversity (e.g. aesthetic contemplation) at all. Some kinds of use mutually exclude one another while others can co-exist or even support each other.

While conflicts between the interests of industrialised and developed countries mainly concern similar interests, namely use interests, conflicts of interest within one nation often refer to different interests, the interest in optimising economic benefit on the one hand and the interest in refraining from certain material use options out of respect for the non-use values of biological diversity on the other. Both parties in such a conflict usually claim arguments of justice. "It's unfair that I am expected to refrain from personal benefits for the benefit of others" is one such claim. "It's unfair that trade-offs between use-interests and conservation-interests generally give more weight to use than to non-use" is the respective other.

These conflicts of interests are obscured by collective language. As long as communication of biodiversity speaks about "our needs" instead of properly naming what kind of needs and whose needs they are, we can't even think about those questions, let alone find practical answers to them.

7.4 Preservation for future generations

If we take the imperative of Sustainable Development seriously, which is to fulfil the needs of the present without compromising the fulfilment of the needs of future generations, we have to discriminate between mere wants and real needs. As long as the wants of some people today compromise the needs of others, debate about balancing the needs of today and tomorrow comes second.

Responsibility for future generations plays a major role in all national strategies analysed. The German, Swiss and Austrian papers all address needs and interests of human beings who will inhabit the world in the future (ANBS 2005: 5, 8, 30 and 56; GNBS: 6, 9, 10, 15, 26, 49, 101, 105, 108; Switzerland: 17, 33., 44). Only the EU-strategy does not explicitly mention "future generations" as an important point of reference. However, the label "our life insurance" indeed signals a perspective that goes beyond today and into the future.

Obviously, our responsibility to future generations is considered to be a moral fact. The crucial question, however, is how biodiversity can be distributed not only between people living today but also between present and future people. The English proverb "You can't keep the cake and eat it" points to the inconvenient fact, that we often can either use a resource today or keep it for the future. This issue becomes even more pressing with regard to the aim of poverty reduction: How are we to balance the needs of people already living (or starving) today against the needs of people that don't even exist yet? This question is neither rhetorical nor cynical. The so-called "New conservation debate" (Minteer & Miller 2011) is a debate about "the proper value of biological conservation in the age of sustainability", which is exactly what the CBD is all about. Decisions with regard to poverty reduction and biodiversity conservation do not always provide win-win-solutions. Often they involve "hard choices" (McShane 2011). The normative claim is that sustainable development "meets the needs of the present without compromising the ability of future generations to meet their own needs" (UN 1987). To meet this requirement, communication on biological diversity has to be explicit about what kinds of needs are at stake, however. If we do not want to fall for the unfortunate alternative of either compromising human needs today or those of the future, communication should stimulate a broad debate about what humans do really need. We should distinguish essentially human needs from mere wants and argue about criteria which help us tell the difference. As long as the wants of some people today compromise the needs of others, debate about balancing the needs of current and future generations comes second.

If we do not want to fall for the unfortunate alternative of either compromising human needs today or those of the future, communication should stimulate a broad debate about what humans do really need.

The ideal of balancing human needs today and in future among each other as well as with the needs of non-human beings ultimately moves the debate beyond the scope of justice. It is represented in the title of the Aichi-targets "Living in harmony with nature" that will be the subject of the next chapter.

7.5 Protecting biodiversity in its own right

All strategies under scrutiny contain references to the idea that the conservation of biodiversity is a matter of justice not only to our fellow humans but also to nature itself. However they do not generally take a strong stance on intrinsic value. While sympathy for intrinsic value is common, rights and duties built on moral intrinsic value lack coherence. We suggest addressing intrinsic value in terms of the Good Life rather than in terms of Justice.

All four biodiversity strategies analysed contain references to the idea that the conservation of biodiversity is a matter of justice not only to our fellow humans but also – in a fairly vague sense - to nature itself.

The **European biodiversity action plan** (BAP), for example, states: "For many, the loss of species and natural habitats matters because they take an ethical view that *we do not have the right* to decide the fate of nature" (COM(2006) 216 final: 4f., emphasis added).

A Memo of the **European Commission** with regard to the 2011 biodiversity strategy states: "There are *strong ethical and moral arguments* in favour of protecting biodiversity *in its own right*, independently of its instrumental value to humans" (EU 2011, MEMO/11/268, emphasis added).

The draft of the **Swiss strategy** presented ethical reasons as the classical motives for nature conservation, and specified them as *all species' right to exist*, *respect for nature* and *intrinsic value of nature*: "The classical motives of conservation are largely ethical in nature (species' right to exist, respect for nature, intrinsic value of nature)" (SNBS 2011: 15). The final version of the Swiss strategy asserts intrinsic value as one out of three reasons for the conservation of biodiversity (SNBS 2012: 16).

The **Austrian strategy** presents the conservation of intrinsically valuable biodiversity as an obligation that coexists with prudential ecological arguments: „Besides the *intrinsic value* of biodiversity and the moral *obligation* of humans to preserve this diversity, biological diversity plays a central role in ecosystem processes..." (ANBS 2005: 5, our translation, emphasis added).

The **German strategy** has the most extensive chapter on ethics. Like the other strategies, it refrains from taking a position of is own with regard to the moral value of biodiversity and emphasises the contingencies of ethical values: "The ethical values represented will depend on the society in which they were developed, and of which they are characteristic" (GNBS 2007: 15). With regard to the question as to which natural entities bear moral rights, the chapter on ethical reasons presents three different approaches: anthropocentric resource ethics, pathocentric animal ethics and biocentric "natural ethics" (GNBS 2007: 15).

In all strategies the presentation of arguments of ecological justice is noticeably different from the presentation of prudential arguments or arguments of social justice. The strategies mention the idea of duties to the non-human world as a moral conviction that exists in society, but clearly distance themselves from it. While prudential arguments are presented as objective truths, matters of ecological justice are treated with reserve. This reservation has comprehensible reasons. Given the yet undetermined debate within philosophy, the authors of biodiversity strategies refrain from taking strong ethical positions with good cause. A political strategy has to be built on solid ground in order to be able to reach all relevant sectors. Therefore, the authors prefer relatively uncontested facts (if possible those that can be expressed in numbers) to highly contested values, about which even trained philosophers don't agree.

With regard to environmental justice we have criticised such an avoidance of moral argumentation for strategic reasons. With regard to ecological justice, things are more complex:

On one hand, respect for nature is a widespread attitude not only among conservationists but also in the general public. According to the German *Naturbewusstseinsstudie* 2009, 23% of the respondents consider nature's *own right to exist* to be an important reason for its conservation (Bundesministerium für Umwelt 2009: 41). "Intrinsic value", thus, is not an unpromising argument. To meet this intuition, we need to find ways to properly address it in biodiversity communication.

On the other hand, all present attempts to include all living beings or even the non-living elements of nature into the moral community are subject to justified criticism. Biocentric and holistic arguments are based on particular world-views or anthropologies that cannot be assumed to be generally accepted. As long as they don't offer coherent solutions for arising conflicts between duties to humans and duties to non-human beings, arguments that are based on intrinsic moral value of natural entities cannot provide guidance in practical decision making. Therefore, it is comprehensible as well as legitimate that they play a minor role in strategic communication.

Nevertheless, given the widespread support for notions of intrinsic moral value, it is recommendable to address this concern. However, it needs to be addressed in other terms than in terms of Justice. From the perspective of an inclusive kind of humanism, arguments of Justice need to be substantiated by arguments of the Good Life to secure the widespread belief that nature has value beyond its mere usefulness (→ chapter 8).

7.6 References

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8 "LIVING IN HARMONY WITH NATURE"

The vision of this Strategic Plan is a world of "Living in harmony with nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people".

COP 10 Decision X/2: Strategic Plan for Biodiversity 2011-2020, II. Vision

"Living in harmony with nature" is the vision formulated in the Strategic Plan for Biodiversity which was resolved at the COP 10 in Nagoya in 2010. In the present chapter we take this programmatic ideal as an indication that conservation and sustainable use of biological conservation are generally considered not only as a matter of our relationships with other human beings but also as a matter of our relationship with nature. The aims of conserving and sustainably using biodiversity are not founded in nature's instrumental value only.

"Living in harmony with nature" names the ideal of a well-balanced relationship between humans and nature. Such a relationship encompasses not only practical use but also attitudes like respect, awe, care and emotional attachment. In the explanation of the category **Good Life** (→ 4.4) we argued that the centre of concern for biodiversity is not solely human survival, but also human well-being. In contrast to economically defined concepts of well-being we suggested understanding well-being in terms of a broader concept of the Good Life. Using examples from the strategies analysed, this chapter develops these thoughts in more detail.

1. The first section shows how the different strategies refer to human well-being. We look for "benefits essential for all people" and identify terms in the strategies that can be **starting points** for arguments of a Good Life (→ section 8.1.).

2. We then argue that valuing nature in other than instrumental ways can be regarded as a reasonable **option of a Good Life** (→ section 8.2).

3. Section 8.3 points to the **normative limits** of an argumentation based on ideas of the Good Life: Even if respect and humility are advisable attitudes, they cannot be morally prescribed. What finally matters from a practical perspective are actions, not attitudes.

4. Using the **EU biodiversity campaign** as one example, we finally explain how the interconnectedness between humans and nature can be turned into a positive argument instead of using it as a threat (→ section 8.4).

8.1 Starting points for encouraging debate about the Good Life

8.1.1 Reference to well-being in biodiversity strategies

References to human well-being are ubiquitous in biodiversity strategies. We argue that communication with regard to well-being may not be restricted to humans' bodily needs, but has to address emotional, social, mental, and spiritual needs as well.

All strategies analysed contain explicit or implicit reference to human well-being. This reference is often mediated by the concept of ecosystem services as in the Millennium Ecosystem Assessment. The EU strategy in general is tuned to ecosystem services and the idea of biodiversity as natural capital. In a similar vein, the Swiss strategy emphasises ecosystem services. In the German strategy, explicit reference to well-being is mainly to be found in the chapter on the Millennium Ecosystem Assessment (→ table 8.1).

Table 8.1 References to 'well-being' in the strategies analysed

Source	Quote
EU COM(2006) 216 final:	Sustaining ecosystem services for human well-being (Subtitle of the EU Biodiversity action plan, BAP)
ENBS 2011: 2	[W]e lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing.
GNBS 2007: 107	[The MA] aims to document the status of our ecosystems and forecast their future development worldwide, and the associated consequences for the wellbeing of mankind.
SNBS 2012: 17	Biodiversity is the basis of ecosystem services that are essential for human well-being (our translation).
ANBS 2005: 24	Conservation and protection of landscapes serve on the one hand the maintenance of a high degree of landscape diversity and thereby of biological diversity and on the other hand the preservation of the attractivity of the country for tourism and leasure business and the well-being of the local polulation (our translation).

In → chapter 4 we explained that reference to the impact of biodiversity on human well-being is the core element of a prudential argumentation. In a nutshell, the argument of Prudence states: "By damaging biological diversity we damage our selves". In the previous → chapter 7 we debated this argument with regard to the different interests that hide behind the collective subject "we". In this chapter we will concentrate on a different aspect: What exactly *is* "well-being"? What precisely does it comprise? Just what do we need for it?

The satisfaction of basic human needs is a necessary and rather uncontested precondition of human life. All of us need food (including water), shelter and clothing for the satisfaction of our bodily needs. Development programs complement the list of basic needs by adding sanitation, education and health-care. Most people would probably agree that this list is not yet sufficient. To lead a good - a truly human life, people need more. Beyond their bodily needs, humans have emotional, social, mental and spiritual needs. As we argued under the heading "Good Life" (→ section 4.3), biological diversity not only contributes to the satisfaction of basic physical needs but also to the fulfilment of immaterial needs. Recreation, aesthetic contemplation, sense of place, sense of identity, and spiritual experience are some of the immaterial "benefits essential for all people" that biodiversity can bring about.

Beyond their bodily needs, humans have emotional, social, mental and spiritual needs.

In order to elucidate the meaning of "well-being", we scanned the strategies for explicit mentions of well-being. In particular, we were interested in the question as to how well-being is related to other arguments in favour of biodiversity (→ table 8.2)

Table 8.2 Well-being as an argument extending beyond ecologic and economic aspects

Source	Quote (emphases added)
ENBS 2011: 2	[W]e lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing.
ENBS 2011: 2	By 2050, European Union biodiversity and the ecosystem services it provides […] are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity
GNBS 2007: 53	Recreation in nature and the countryside is an important prerequisite for our physical and emotional health and wellbeing.
ANBS 2005: 24 our translation	On the one hand, protection and conservation of landscapes serves to keep them as diverse as possible and in doing so to safeguard biological diversity and on the other hand, such measures serve to sustain the touristic appeal of the country, the leisure industry and the well-being of the domestic population.

Table 8.2 presents typical quotes where well-being is mentioned as one among other reasons for biodiversity conservation. Note well that due to this additive use the meaning of well-being stays quite vague. It remains unclear whether the term is just a different word for what is also said by the other arguments or if it adds something *new* to the list.

Let's take the example of the EU strategy. The introduction describes how the deterioration and loss of biodiversity jeopardise the provision of ecosystem services: "We lose species and habitats *and* the wealth and employment we derive from nature, *and* endanger our own well-being". This sentence names three reasons for the biodiversity strategy:

1. We lose species and habitats.
2. We lose wealth and employment.
3. We endanger our well-being.

The relation between those three reasons remains open. The reader can either understand that species loss leads to a loss of wealth which endangers our well-being (3 depends on 2 and 2 depends on 1) – this is the short version of the prudential argument that dominates the discourse. But one can also understand that the loss of species itself *and* the loss of wealth endanger human well-being (3 depends on 1 and 2). One might even understand that the loss of biodiversity endangers human well-being *beyond* its negative impact on species and habitats and beyond its negative impact on the economy (3 is different from/not identical with 1 and 2). In this chapter we want to illuminate the second and third understanding: We argue that biological diversity matters to humans not only as "wealth and employment" but also as "species and habitats" and as diversity as such.

8.1.2 The value of diversity: Why does difference matter?

The value of diversity is grounded in the value of difference. With regard to the basic relatedness of human existence we argue that the experience of difference is fundamental for the constitution of the human self and for maintaining emotional relationships to others.

To say that diversity matters as such is to say that it has meaning for humans over and above its ecological and economic meaning. It has symbolic, emotional, psychological, and cultural significance. People maintain all kinds of relationships with

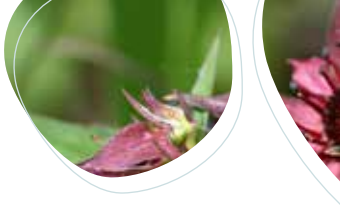
nature. And those relationships are not a mere add-on to human existence, but rather constitute it. From the perspective of the constitutive relationality of human existence, diversity matters for humans because differences matter for relationships: differences between species and within species, differences between cultures and within cultures, differences between individual human beings and within individuals. The experience of difference is a fundamental experience of human life – and it is constitutive for building relationships.

To regard the experience of difference as constituting the value of biodiversity is in accordance with a definition of biodiversity provided by the UNESCO-Programme Man and Biosphere (MAB). In the MAB Digest 9, Otto Solbrig (1991:9) defined biodiversity as "*the property of living systems to be different, unlike. […] Thus, each class of entity […] has more than one kind*".
While the MAB report was interested in the ecological function of biological diversity for ecosystems we propose that "the property to be different" is also of major relevance for the "function" of biodiversity for human well-being. The concept of biodiversity emphasises differences on all hierarchical levels of living systems: from genes to individuals to species to ecosystems and landscapes. These differences are obviously biologically relevant. What's more important for our point here, however, is that differences are also psychologically important for humans. The experience of difference is essential for humans to become individual subjects. Individuals require experiencing difference for the constitution of their self. We need to be able to discriminate between Self and Other to become individuals. And we need to be able to discriminate between different "others" in order to be able to build up relationships. **In a world of otherness, it's the "significant other" who matters.**

This is one important reason why diversity has such a high value for human well-being: Differences are constitutive for creating and sustaining relationships. This is true not only for relationships among humans. It is also true for relationships that humans maintain with nature. Difference matters when it comes to being able to identify a particular landscape as home. Difference matters for experiencing awe and wonder in the face of nature.

The experience of difference is a fundamental experience of human life – it is constitutive for building relationships.

Difference matters for accepting responsibility for someone or something. In all these cases, it is **not the sheer number** of diverse things, but the **experience of difference** that gives value to a particular aspect of nature, a particular landscape or a particular object. In fact, people do also value monotonous landscapes like deserts or the quiet sea – exactly because they offer a unique experience of difference. The "property of being different" is indeed linked to many traditional conservation values: We value what is unique, pristine, original - and therefore irreplaceable. Valuing biodiversity does not mean that we want as many species as possible everywhere in the world. Rather it means valuing specific differences between various parts of the world, various species and various cultures. In the next section we will analyse how this subjective dimension of experiencing difference is reflected in the material analysed.



8.2 Recognising the subjective meaning of biodiversity

8.2.1 Valuing biodiversity for what it is

Some elements of biodiversity strategies refer to particular aspects of biodiversity rather than to biodiversity in general. These particularities matter for the subjective dimension of biodiversity.

As we saw in the previous section, there are many aspects in regard to which biodiversity matters for human well-being. Not all of them refer to objective physical needs of humans. If we want to understand how biodiversity relates to human well-being, we have to look for more than just physical health and economic security. We have to consider the **emotional, intellectual and spiritual meaning of biological diversity for human beings**. This meaning is often referred to as "cultural services" in the ecosystem services approach (→ figure 6.1). As humans we use natural products and services for food, housing and other physical needs. However, we also relate to (particular elements of) nature beyond the fulfilment of those physical needs. As individuals, we become who we are in exchange with our social and natural environment. These subjective relations are part of our identity. Hence, changes to this environment can afflict our personal identity if we do not welcome them. As one example for the subjective significance of differences, it is often lamented that our natural environments are becoming increasingly similar, that places look increasingly like one another.

This loss of diversity means a loss of possibilities for identification. "Living in harmony with nature" does not concern a general nature, but a **particular nature** that matters for human beings in its particularity.

Trying to capture this subjective meaning in the strategies analysed, we scanned the papers for terms that are related to such **individual relations to particular aspects of nature:** aesthetics, beauty, uniqueness (Eigenart), homeland (Heimat), and landscape (→ table 8.3).

It can be seen that those particular aspects of well-being are to be found more frequently than the general concept of well-being. While the German term 'Heimat' (homeland) is only mentioned in the Swiss and German strategies and the use of the term 'Eigenart' (uniqueness) is restricted to the German strategy, all three national strategies feature a noticeably high frequency of the term 'landscape'. Unlike biological categories such as 'species' or 'gene', the term 'landscape' refers to a combination of physical and cultural elements. In the European context, landscapes represent "the combined works of nature and of man", an object that the UNESCO considers a cultural rather than a natural heritage (UNESCO

Table 8.3 Occurrence of keywords related to the subjective dimension of biodiversity

Keywords / Strategy		Austria	Switzerland	Germany		EU
German	English	German	German	German original	English translation	
Wohlbefinden/Wohlergehen/Wohlfahrt	Well-being	1	4	7	7	2
Lebensqualität	Quality of life	–	1	9	9	–
Ästhetik/ästhetisch	Aesthetic(s)	–	2	4	4	–
Schönheit	Beauty	1	1	10	10	–
Eigenart	Uniqueness	–	–	11	9	–
Heimat	Homeland	–	10	7	3	–
Landschaft	Landscape	70	60	163	144	1

World Heritage Center 2005: 13). Landscapes emerge from interactions between societies and nature. They are shaped by diverse cultural factors. As a result, landscapes play an important role in local, regional and national identities. The frequency of occurrence of the term landscape in the national documents is therefore not surprising. It can be taken as suggesting that the subjective dimension of biological diversity is of major importance for convincing people and gaining practical support.

8.2.2 Refraining from selfish actions as a human capability

Moral consideration of biodiversity can be grounded in the human capability to refrain from selfish action in favour of others. The development of this capacity is a reasonable aim of a Good Life.

People cherish biodiversity because they maintain subjective relationships with their natural environment. In these relationships, biodiversity (or some of its components) is valued for what it is in itself, not for a particular purpose it fulfills. In such an appreciating relationship, people do not ask "What is biodiversity good for?" Rather, they consider biodiversity to be good "as such".

Why can – or even should – we recommend an attitude which involves valuing something beyond any use interest? The reason is that the ability to refrain from merely use-oriented relationships is a specifically human capability and this capability is worth developing if we want to lead a good, a really human life. In this vein, Angelika Krebs (1999) discusses two arguments in her "ethics of nature": the pedagogical argument and the meaning of life argument.

The *pedagogical argument* (Krebs 1999: 57ff.) emphasises that human relationships with non-human nature are not in themselves moral in nature. However, they are a field of exercise for the human disposition towords moral consideration. If we inconsiderately destruct nature, the argument goes, we corrupt our human capability of empathy and self-control. To refrain from personal short term use interests out of respect for others is an exercise of human rationality and morality. The morally relevant damage, in this regard, is not the damage done to animals and plants, but the damage done to human moral capabilities. One prominent example for such an argument is Immanuel Kant (→ box 8.1).

The pedagogical argument according to Kant

"A propensity to wanton destruction of what is beautiful in inanimate nature (…) is opposed to man's duty to himself; for it weakens or uproots that feeling in man which, though not of itself moral, is still a disposition of sensibility that greatly promotes morality or at least prepares the way for it: the disposition, namely, to love something (for example, beautiful crystal formations, the indescribable beauty of plants) even *apart from any intention to use it*.

With regard to the animate but nonrational part of creation, violent and cruel treatment of animals is far more intimately opposed to man's duty to himself, and he has a duty to refrain from this; for it dulls his shared feeling of their pain and so weakens and gradually uproots a natural predisposition that is *very serviceable to morality in one's relation with other men*."

Kant, I., The metaphysics of morals

Box 8.1 The pedagogical argument according to Kant (quoted from Krebs 1999: 57)

Defenders of animal rights or moral rights of nature reject this opinion. In their view, respecting the needs of non-human creatures is a matter of justice, not of the good lives of human beings. They regard refraining from cruel treatment of animals not only as "man's duty to himself" but as a duty to the animal. In fact, in its Kantian version the argument acknowledges respect for nature as being instrumentally valuable for human morality.

In contrast to this strict separation of the human and the non-human we have endorsed a more relational understanding of human existence. To bridge the

moral divide between humans and non-human nature we have suggested acknowledging the irreducible relationality of human existence. In such an understanding it would not make sense to separate humans from the non-human world. Through "wanton destruction" we do not only harm our ability to morally consider other humans. We harm our very capability to engage in other than consumptive or destructive relationships with nature. To engage in caring and respectful relationships with nature is an attitude valuable in itself – and not only instrumental in respecting other human beings.

The subjective dimension of biological diversity is of major importance for convincing people and gaining practical support.

The *meaning of life argument* (Krebs 1999: 61ff.) regards living life for its own sake as a basic option for a good life. This argument asserts that, in order to be able to cope with life's risks and uncertainties, one should not let the meaning of one's life depend on particular achievements. Any instrumental attitude is therefore not recommendable (→ box 8.2).

> "Experiencing life as intrinsically valuable involves experiencing all that makes up the world, natural as well as human, as bearing intrinsic value, as something to be revered, as "sacred". For the wise person nothing is trifling enough to be without intrinsic value"
> (Krebs 1999: 63.)

Box 8.2 The meaning of life argument according to Krebs

The intention of this argument is to integrate the spiritual dimension of humans' relationship with nature into an anthropocentric perspective. It thus builds a bridge to holistic positions that regard reverence for nature as one element of human self-realisation. While many popular versions of holism rest on doubtful ontological foundations, the meaning of life arguments does not make ontological, but rather prudential claims: It is prudent to lead your life as if everything in it were intrinsically valuable. Debate about the Good Life is thus an extension of the prudential argumentation. This extension is only rarely made and hardly ever explicitly expressed in current communication. Unlike the narrower version of Prudence, debate about the Good Life explicitly addresses those aspects of humans' relationship with nature that are not instrumental but are perceived as intrinsically valuable.

8.3 Respect for nature as a commendable attitude

8.3.1 The relevance for communication

The Good Life opens the floor for debate about those aspects of biodiversity that enrich human existence beyond economic or technological utility.

What do we gain for communication if we address questions of the Good Life – and what do we lose? We have argued above that arguments of the godd life are less compelling arguments. Being recommendatory rather than binding, they do not allow for the formulation of commandments and prohibitions. Where communication on biodiversity merely seeks to justify existing legislation, arguments of the Good Life fail.

However, with regard to the aim of courting and motivating people, arguments of the Good Life are indispensible. They not only allow for communication about questions essentially relevant for all people (→ box 8.3). They especially allow for expression of deeply held moral beliefs that do not withstand the stricter standards of Justice. To create "room for emotion and spirit" was already the motivation of the creators of the term 'biodiversity' (→ sub-section 1.2.1). If communication on biodiversity is to address this aim, it needs to find an appropriate language. This is not the language of scientific or economic rationality. And it is not the language of Justice. It is the language of the Good Life.

The importance of the meaning of life argument

"The importance of the meaning of life argument lies in its attempt to spell out in strictly anthropocentric terms the widely-held belief that technocratic cultures which regard nature as nothing but resource or commodity miss out on gaining a deeper understanding of human beings and their world, that there is something spiritually lacking in them"

Box 8.3 The importance of the meaning of life argument (Krebs 1999: 64)

8.3.2 Normative limitations of attitudes

Arguments of the Good Life concern attitudes, not actions. This implies three limitations: Attitudes cannot be prescribed. Attitudes do not constitute rights and duties. Biodiversity needs actions, not attitudes.

The aesthetic experience of nature, the emotional attachment to landscapes or species and the moral consideration of the needs of other species are mind-sets that dispose people for conservation. Therefore, communication, education and public awareness measures are well advised to recognise them and to encourage debate about them. In this regard, the message that all people can benefit from a more considerate relation to the non-human environment is certainly of major importance for acceptance and practical cooperation. However, such an approach has important limitations.

With regard to normative claims one should not ignore the fact that **attitudes cannot be prescribed**. Respect for nature and a caring attitude are mind-sets that people take by choice. We can promote them – but we cannot enforce them. Respect for nature might be a commendable attitude, even a respectable one – but it is not a moral obligation to choose this attitude. Moral obligations refer to actions, not to attitudes.

If we seek for arguments that allow for restricting freedoms of action, arguments of the Good Life are weak arguments. **The fact that some people have a particular relationship to a particular piece of nature does not constitute moral rights or duties** – a least not without further arguments. As yet, no acknowledged moral right to aesthetic experience exists. This doesn't mean that such a right is inconceivable. But its justification would have to show that the ability to refrain from use-interests in favour of non-use-kinds of relation is not only one element

of human nature worth developing but also one that is constitutive for human well-being (→ sub-section 8.3.3).

Another shortcoming of attitudes is that they do not necessarily result in certain actions. An attitude of respect still allows for use – and it does not set clear limits. Even conservationists who are deeply committed to the intrinsic value of all living beings can (and in fact often do) contribute to the decline of biodiversity in our daily practices. For the preservation of biological diversity, actions count more than attitudes. **Conservation, sustainable use and fair sharing of biodiversity require actions** – and these actions do not need to be the result of a moral stance.

8.3.3 Dependence on contested ideas about human nature

If arguments of the Good Life are to be turned into arguments of Justice they need to be based on an uncontested normative anthropology. Such an anthropology is not in sight.

In the first sub-section we emphasised that arguments of the Good Life offer an attractive and convincing option for communication. At this point it is appropriate to also mention a serious *caveat*: **Arguments that refer to the Good Life cannot be based on an uncontested empirical foundation.** Ineluctably they rest on a particular anthropology. They implicitly claim that human well-being comprises **more than just physical needs.** That's why they are basically meta-physical. Communication about the Good Life touches upon ultimate questions like "What is the meaning of life?" and "What is the essence of being human?" Hence, arguments of the Good Life are not built on rock-solid ground but on highly contested terrain. It is not to be expected that the questions involved, which are as old as philosophical enquiry, will be solved in biodiversity communication. Nevertheless, their dependence on a normative anthropology should be no reason to avoid them entirely.

8.4 Acknowledging the bonds between humans and nature

8.4.1 The experience of interconnectedness

The interconnectedness between human and other species is mostly represented as "dependence". While "dependence" bears a negative connotation, focusing communication on relations would assign a more positive meaning to the experience.

The interconnectedness between humans and all other species is a central topic of the EU biodiversity campaign "We are all in this together". The corresponding website features a serial subtitle that emphasises the connections between the human and the natural world. It also presents several videos that illustrate how human beings are connected to every other living being in the world (→ box 8.4).

"We are connected to the bee is connected to the flower is connected to the ant is connected to the tree is connected to the beetle is connected to the sparrow is connected to you." (EU biodiversity campaign "We are all in this together" – The interconnectedness between humans and other species)

Box 8.4 The interconnectedness between humans and other species

While the experience of being connected to the living world around us might very well be displayed as an integral part of a good life, the interconnectedness is all too often presented as a fact that potentially threatens human life. For example, one of the EU campaign's videos ends with the picture of a dead sparrow on the concrete of a street in a big city with the message: "Biodiversity in our cities is decreasing at an alarming speed. *Today it is the sparrow, tomorrow it could be you*". This final slogan displays the loss of biodiversity as a matter of human survival – although the pictures themselves treat the motive of the interconnectedness between all species in a more playful manner.

From a strategic perspective it can be questioned, whether the apocalyptic rhetoric in the end of the film will motivate people to take action. Although some internet bloggers stated that the videos "gave them goosebumps", others who watched the video and posted commentaries were sceptical about the practical consequences. For example one wrote: "The sad thing is that people watch these videos and that's it. They do nothing about it".

The emphasis on humans' dependence on nature tends to neglect human freedom of will. In contrast, an emphasis on humans' relatedness to nature would encourage the responsible creation and shaping of these relations.

With regard to communication the videos rightly highlight the interconnectedness of human and non-human living beings. However, instead of positively emphasising these plentiful relationships as potential sources of happiness the final threat "tomorrow it could be you" underlines the physical dependence on a functioning environment. The emphasis on humans' dependence on nature tends to deny humans' freedom of will. In contrast, an emphasis on humans' relatedness to nature would encourage the responsible creation and shaping of these relations. The latter, however, is the road to follow if biodiversity communication is to effectively change the course of human actions.

8.4.2 The experience of difference

The experience of nature does not only entail experience of interconnectedness. It also allows for the experience of difference. This regards differences between humans and nature as well as the experience of non-identity within human subjects. The ideal of a reconciliation between humans and nature corresponds to the ideal of an integration of instinctual, emotional and rational aspects of human life.

The common emphasis on humans' dependence on nature suggests that humans should consider other species because their lives depend on theirs. But even if human lives are not literally endangered by biodiversity loss, the experience of interconnectedness can be a reason for people to engage in favour of non-human species. This reason lies in the duality of the human constitution: We are natural as much as cultural beings. Our relation to nature around us mirrors our relation to nature within us. By harming non-human nature, one might say, humans harm human nature, too.

The duality of the human constitution is crucial from an ethical perspective. In philosophy humans are referred to as "animal rationale" . As "animals" humans are able to experience sympathy with other living beings. But it is as "rational beings" that they are able to take over responsibility for their actions. In being embodied creatures, humans are like non-human organisms with regard to their physical needs. In being mindful persons, humans are unlike non-human organisms with regard to their ability to assess consequences of their actions and take responsibility for them. Hence, the interconnectedness between humans and the natural world matters not only because we are all the same, but because we are – in a morally relevant way – different!

In experience of nature, people experience themselves not only as natural beings but also deeply as human beings.

The experience of difference is a constitutive element in our relationships with nature as much as is the experience of similarity. Emotional bonds between humans and (elements of) biodiversity and moral responsibility exist not despite but because of this difference. In experience of nature, people experience themselves not only as natural beings but also deeply as human beings.

The ideal of "Living in harmony with nature" is meant as the promise of a reconciliation between humans and nature. This promise requires the acknowledgement that instinctual needs, emotional desires and rational interests are equally essential for a human life. How to balance them is the question that we can, and actually should, debate within the framework of a Good Life.

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9 TAKING COMMUNICATION SERIOUSLY: RECOMMENDATIONS FOR COMMUNICATION, EDUCATION AND PUBLIC AWARENESS

Effective communication is about having clear objectives as to what we want to change in knowledge, attitudes, and behavior. It is about messages, messengers, the choice of media and the tone of voice. Traditional messages on biodiversity from governments and NGOs urging the public and other stakeholders to change their daily practices need to be reviewed. Often these messages use too much jargon, are negative, too didactic, abstract or filled with doom. Instead of turning people on, they risk switching them off. The lesson to be learned is that communication has to be strategic, positive and tailored to different circumstances and cultural situations.
Dr. Ahmed Djoghlaf, Executive Secretary to the Convention on Biological Diversity
(In: Hesselink et al. 2007:5)

This study is meant to advance communication, education and public awareness with regard to ethical questions raised by biodiversity issues. We consider this report to be a contribution to the implementation of the respective article 13 of the CBD (→ section 1.3.). With regard to the concept of communication, we support the ideal of communication as "a two-way-process aimed at mutual understanding" as suggested in the CEPA toolkit provided by Hesselink et al. (2007: 294). Such a concept of communication bears normative implications. In order to really achieve mutual understanding, participants of communication have to follow some minimum rules that they implicitly accept as valid as soon as they engage in serious communication.

First of all, people need to be able to trust each other. To achieve real understanding, they need to be sure that all participants say what they mean and mean what they say. **Credibility and reliability** are key values for successful communication (Nida-Rümelin 2011). These two basic criteria exclude false promises and threats as well as those arguments that we are not personally convinced of.

Secondly, convincing arguments need to be **coherent and consistent**. The normative conclusion should follow coherently from the factual and normative premises and the premises should be consistent with empirical findings.

Summarising results from the previous chapters, this chapter explains what these requirements mean for successful biodiversity communication.

1. The first section of this chapter explicates how the aforementioned claim that communication on biodiversity should be "*strategic, positive and tailored to different circumstances and cultural situations*" can be substantiated from an ethical perspective (→ section 9.1).

The following sections summarise conclusions for communication from chapters six to eight:

2. One common strategy of "positive" communication is **appeal to self-interest**. → Section 9.2 asserts that collective and individual interests often fall apart and argues that biodiversity communication needs to emphasise collective interest in biodiversity conservation. In order to be "positive" official communication tends to overemphasise the benefits of biodiversity conservation and to neglect its costs.

3. Avoidance of negative messages can entail a **neglect of justice issues,** however. Biodiversity communication needs to address costs in order to be able to talk about the question as to how those costs and the related benefits can be shared in a fair manner not only on a global scale but also between today and tomorrow (→ section 9.3).

4. An important source of positive messages are arguments that we've labelled as arguments of the Good Life. In fact, biodiversity communication often refers to such arguments but without being aware of the implications. → Section 9.4 elaborates on ways to **stimulate communication about values** instead of restricting communication to the presentation of scientific and economic facts. To identify alternative courses of action it is important to breach the rhetoric of practical constraints and recognise room for value-based decisions.

5. Finally, we encourage all communicators to **explicitly address ethical questions**. Due to the reduction of ethics to the debate about intrinsic moral values, many think that ethical arguments are only those that are without any relevance for human lives. This is not the case. Arguments of Prudence, arguments of Justice, and arguments of the Good Life **all** involve ethical commitments that communication should not deny but rather make into the explicit centre of concern (→ section 9.5).

9.1 On strategic and positive communication

9.1.1 Strategic argumentation

Communication on biodiversity aims at inducing changes in knowledge, attitudes and behaviour. From an ethical perspective, these changes should be the result of conviction, not of persuasion or effective manipulation.

The aim of communication, education and public awareness efforts related to the implementation of the CBD is to induce changes in knowledge, attitudes, and behaviour concerning biological diversity. To halt the ongoing loss of biodiversity, individuals need to change their daily practices and institutions need to change the rules they follow. Bringing about the required changes is the overall goal of communication efforts. To be sure, all communication efforts have to be "strategic" in that they should never lose sight of this overall aim.

However, with regard to the framing of communication as a two-way-process aimed at mutual understanding, we have demanded that the quest for good arguments not be guided by strategic considerations (→ paragraph 1.3.2). From an ethical perspective it is important that the required changes in action are not the result of effective manipulation but of sincere conviction. Legal and (to a lesser degree) moral norms restrict individual freedoms. To many, such restrictions are an imposition. But this imposition is reasonable. This means: It can be justified by reasons – and it has to be. In order to justify changes in habits and rules, reasons have to be traceable, convincing and reliable. The following sections will show how some of the most favourite arguments cited in the strategies analysed can be improved in order to be as sound as they should and could be.

9.1.2 Positive messages

Communication on biodiversity should emphasise the interconnectedness of humans and the natural world as a potential source of happiness rather than a threat. However, the legitimate quest for positive messages must not conceal inconvenient facts.

Communication experts seem to agree that positive messages are better suited for motivating action than prophecies of doom. In this respect it is correct that communication on biodiversity needs to be positive. In order to gain practical support, communication on biodiversity should neither be restricted to counting losses nor insinuate the imminent end of the world. If the audience just battens down the hatches in expectance of doomsday, we won't achieve the required changes in action.

The challenge thus is to describe the decline of biodiversity and to make its connection to human well-being very clear without scaring or threatening the audience. Sure enough, this is a tightrope walk. In the previous chapter we illustrated the fine line between consternation and shock in regard to the slogan "Today it is the sparrow, tomorrow it could be you", which is part of the EU's biodiversity campaign "We are all in this together" (→ section 8.4).

Rather than giving such a threatening turn to the interconnectedness of human and non-human well-being, communication should refer to the experience of **interconnectedness as a positive value**. Instead of solely stressing the "existential meaning" of biodiversity, communication should integrate the

If positivity becomes a dogma we cannot speak about the costs that have to be expected – and hence not about the distribution of costs and benefits among different people and groups either.

fact that species loss is a matter of the good lives of human beings, too. By explicitly addressing the non-material benefits of biodiversity, arguments of the Good Life can contribute to "positive" communication.

However, there is a flip side to positive communication that needs to be addressed, too. If we are to seriously address species loss, we won't be able to stick to positive messages. The conservation and sustainable use of biodiversity will bring about not only benefits but also costs. If positivity becomes a dogma we cannot speak about the costs that have to be expected – and hence not about the distribution of costs and benefits among different people and groups either. If communication were to be restricted to positive messages, matters of justice could not come into view – and could not be debated.

9.1.3 Tailored argumentation

To tailor argumentation according to the expected audience is necessary to be heard and understood. However, tailoring argumentation does not mean that the one who pays the piper calls the tune.

If we want to engage people in communication about biodiversity we have to set the tone right – there's no doubt about this. To engage people, we have to find out what motivates them. We have to talk about their world views and beliefs, their values and their commitments. Only then can we find arguments that have the potential to be understood by this particular person or group. Out of many good arguments we can pick those that address the living conditions and philosophies of the respective person or group.

Successful communication requires understanding who we're talking to. However, there's a limit to tailoring arguments according to the audience: A bad argument does not turn into a good argument just because people like to hear it. Tailored communication does not mean that we use poor arguments just because people are inclined to listen to them. Nor does it allow us to keep quiet about aspects that might potentially threaten acceptance. For example, the claim that everybody will profit from the conservation of biodiversity may or may not be strategically successful – this is an empirical question that is beyond the scope of an ethical study. From an ethical perspective, however, such a claim has to be rejected if it is to be expected that conservation also brings about costs.

The following section summarises the examples we presented in chapters 6 to 8 with regard to the question as to how "positive" and "customised" arguments can be improved by explicitly addressing ethical aspects.

9.2 Prudence: From individual to generic self-interest

9.2.1 We all benefit?

Collective wording tends to obliterate conflicts of interest; naming costs and benefits is necessary in order to enable debate about their fair distribution.

In chapter 7 we discussed one example of misleading "positive" and "tailored" communication to be found in the citizens' summary of the EU strategy (→ section 7.1). As an answer to the question "Who will benefit and how?" the paper presents three groups: "Europeans working in sectors that directly depend on biodiversity", "all European citizens", and "people outside the EU". Sure enough, conservation and sustainable use will benefit all these groups – but in very different ways. And the benefits of one group will most probably be related to costs for another. For example, the benefits for farmers and fishers within and outside of Europe will depend on the willingness of European citizens to pay adequate prices for goods that are yielded sustainably. Hence, not every single person or group will profit in the same way. We either have to be very specific about what we mean by "profit" (→ paragraph 9.3.2) or we risk leaving the frame of veracity. Comprehensive and long-term consideration of the needs of the poor as well as the needs of non-human beings will have an impact on economic profits. To date, negative impacts of economic activities on the natural environment as well as on society are hardly reflected in the prices but rather externalised. If prices are to tell the ecological and social truth, they probably have to rise – and this will neither please producers nor consumers. Conservation of biodiversity and more sustainable use patterns are not for free. Someone will have to pay for them – and without mentioning this "inconvenient truth" we cannot even begin the debate about a more just distribution of biodiversity costs and benefits.

9.2.2 The difference between all_c and all_d

Communication on biodiversity should bear in mind the difference between collective and distributive interests.

Whenever we (as communicators of biodiversity) use the term "all", we should be very clear about the intended meaning. Are we talking about "all" as a collective (all_c) or are we talking about each and every single individual (all_d)? As we showed above (→ section 7.1) the interests of all_c and of all_d are not identical. Individuals can and do have particular interests that are not in accordance with the interests of the collective. Therefore, it can be in the interest of all (collectively) to restrict the realisation of particular individual interests in favour of a common long-term interest. The difference between collective and distributive interests can be illuminat-

The difference between collective and distributive interests

The collective interest of all is not identical with the distributive interest of all. All_c have an interest in knowing that ownership is respected in our society, that no one need fear that every unwatchful moment is used by someone to snatch bags, steal bicycles, break into homes, etc. But many have an individual interest in snatching bags, stealing bicycles and breaking into homes. Most of these individuals would prefer to live in a society in which no one steals or cheats. All_c have an interest in there being no stealing or cheating, but not all_d have an interest in there being no stealing or cheating. If each person takes care of him- or herself, then everyone is taken care of – this only holds in a distributive sense. If each person takes care of him- or herself, everyone is taken care of in the sense of each individual insofar as each person takes care of him- or herself. All_c have an interest in not having each person merely take care of him- or herself.

Box 9.1 The difference between collective and distributive interests (Nida-Rümelin 2011: 74f., our translation)

ed with the example of theft used by Nida-Rümelin (2011): Although all_c have an interest in having their personal belongings be respected, some individuals do have an interest in taking possession of those belongings (→ box 9.1).

In contrast to what is shown in this example, biological diversity is not a personal property, but a common good. Nevertheless it can be said that it is in the interest of all_c to conserve it while at the same time it is in the interest of all_d to secure the lion's share of it for themselves. We have marked this difference as one important limitation of prudential arguments (→ section 4.2).

Keeping the difference between collective and distributive interests in mind, it is right to emphasise that biological diversity supports and enriches the lives of human beings in very many different ways. The statement "We all benefit directly and indirectly from the goods and services that nature provides" (EU 2011 citizen summary) is true. In fact, biodiversity communication can and actually should be much more concrete in illustrating just how manifold human relationships with nature are (→ section 9.4). To be sound, however, this argumentation needs to move from all_c to all_d and be very explicit about who benefits in which ways.

9.3 Justice: From "we" to "who"and "how"

In the previous section we argued that it is right to emphasise the (individual and collective) benefits of biological diversity. In this section we need to add to this: But it is wrong to pretend that we can eat the cake and have it too. Global resources are finite, as are the capacity and resilience of ecosystems. If communication is to be steered towards halting the loss of biodiversity, the fact that "we all" benefit from conservation efforts is as true as it is inconsequential. In order to induce changes, it is necessary to ask **who** benefits from the current situation – and just **how** this current benefits relate to other possible benefits that cannot be realised as yet. In short, it is unavoidable, though inconvenient, to think and talk about costs and trade-offs. Some people benefit from particular uses of biodiversity at the expense of other people. Some interests in using biodiversity can only be realised at the expense of others. That means we need to address conflicts between different interests of different people (→ paragraph 9.3.1) as well as conflicts between different interests of the same people (→ paragraph 9.3.2).

9.3.1 Whose benefits?

The CBD integrates matters of conservation and development. Therefore, communication on biodiversity may not leave the topic of consumption and its unequal distribution un-addressed.

In contrast to the aforementioned citizen's summery that suggested benefits for all, the EU strategy is elsewhere very explicit about beneficiaries and sufferers:

> *"[T]he EU derives significant benefits from global biodiversity and is at the same time responsible for some of the loss and degradation that occurs beyond its borders, notably due to its unsustainable consumption patterns" (ENBS 2011: 7).*

In chapter 1 we put emphasis on the fact that the CBD is not only about conservation but is also embedded in the ideal of Sustainable Development. The 1992 conference in Rio and the follow-up processes with regard to climate and biodiversity are not primarily aimed at the environment but at human development therefore. Communication on biodiversity may not leave the topic of consumption and its unequal distribution un-addressed.

Given that the strategies analysed are all addressed to people in European countries, the negative impact of European modes of consumption and production receives quite little attention in the related communication. The North-South conflict hardly appears as a problem of the North, but rather as a problem of the South. However, if it is to be resolved,

Although they are inconvenient and ask for trouble, questions with regard to gains and losses and fair distribution have to be addressed in biodiversity communication.

the countries of the North (or, with regard to the material analysed: the majority of the people in Germany, Switzerland, Austria and the EU) will have to induce and accept major changes in the way they live. This imposition will most probably meet broad resistance among the population and it raises serious concerns about social justice and equal access – not only between North and South but also within Northern states. Although they are inconvenient and ask for trouble, questions with regard to gains and losses and fair distribution have to be addressed in biodiversity communication. Otherwise, communication won't be able to achieve the changes in individual daily practices nor in institutional regulations that are both needed to halt the loss of biodiversity.

9.3.2 What kind of benefits?

Communication on biodiversity needs to be very specific about what kinds of benefits biodiversity brings about – and how they may contradict each other.

If we argue that "all people benefit" from the conservation of biodiversity we have to be more specific about what exactly we mean by "benefits". The use of biodiversity as well as the abdication of it brings about very different kinds of benefits: financial benefit, social benefit, ideational benefit. The crux of the matter is: It can't bring about all these benefits at the same time and to the same extent. In fact, the problem with biodiversity loss – as with most other environmental problems – is that most people are beneficiaries and sufferers at once: We benefit from the flexibility granted by individual traffic – and at the same time we suffer from increasing noise. We benefit from the newly built bypass road – and at the same time we lament having lost the tranquillity of the previously unspoilt landscape. We benefit from the opportunities provided by cheap flights – and at the same time we lament climate change. We benefit from the year-round cheap availability of all kinds of fruits and vegetables – and mourn the decline of agricultural diversity.

Hence, an important task of biodiversity communication is to encourage and facilitate **critical reflection** on personal habits and values. In contrast to the win-win-scenarios currently preferred it is necessary to mention trade-offs: We can get *more out* of biodiversity – more joy, more beauty, more recreation, a more meaningful life – if and only if we accept getting *less* of other things: less convenience, less consumption, less opulence, less waste. Only by debating the different kinds of benefits brought about by biodiversity, can communication address the distinction between wants and needs which is essential to Sustainable Development. This is the debate made possible by a discourse about what it means to lead a Good Life.

9.4 The Good Life: From facts to values

Having argued that communication needs to move from individual to collective interests and has to address questions of distributive justice, this section advocates communication about the Good Life. Although virtually all communication on biodiversity emphasises the importance of biodiversity for human well-being, amazingly little attention is given to the question as to what well-being exactly constitutes. Most often, well-being is equated with economic welfare. For lack of reliable evidence and quantitative data, beneficial effects of biodiversity that cannot be counted in financial units receive too little consideration. With regard to the need for positive arguments this section summarises some thoughts about possible values achieved by refraining from instrumental uses of biodiversity (→ paragraph 9.4.1.) and the possible benefits of frugality (→ paragraph 9.4.2). However, arguments that refer to the Good Life are built on value-laden anthropologies and world-views that are not uncontested.

9.4.1 The value of non-use

An emphasis on the utility of biodiversity is prone to misunderstandings. Many benefits that people derive from biodiversity are not related to using biodiversity, but to refraining from use. To avoid this misunderstanding, emphasis on the subjective significance of biodiversity can be helpful.

One tricky element of biodiversity communication is the tendency to emphasise the (potential) usefulness of biological diversity. Such a strategy has been increasingly used to get people on board who as yet adopt a rather indifferent or even reserved attitude towards conservation goals (→ chapter 3 on the objective and impact of the TEEB study). The core message of a use-centred argumentation is: "You don't need to be a friend of the Earth to have reason to save it. Natural goods and services are useful for economics and society in so many ways that their conservation is a matter of rational self-interest." We have grouped arguments of this kind under Prudence and have shown that, contrary to their intention, they do not work without ethics (→ paragraph 4.1.3).

In this subsection we need to concentrate on a different aspect. The "tricky" part in the use-argument is the concept of "utility", which bears different meanings in economy than it does in philosophy and in everyday language. Economists consider every expressed preference as an expression of the utility for an individual. If I prefer the beauty of the landscape to site development, this means that, to me, the utility of unspoilt beauty is higher than the utility of new sources of income. For many conservationists, such a concept of use contradicts their original intentions: They basically understand conservation as refraining from use – in favour of other people or species. To the traditional conservationist's view, sparing the bounty of nature for future generations or sharing nature's benefits with others is exactly the opposite of maximising the individual utility function. It means refraining from personal benefits for the sake of others. So-called non-use values (→ paragraph 3.3.1) and so-called cultural ecosystem services are thus a major source of misunderstanding (→ section 6.3). On the one hand, economists emphasise the broadness of their value concept, of which use values are just the tip of the iceberg (→ paragraph 3.3.2). On the other hand, the economic concept of "utility" implies a relation of means and ends that is at odds with the widespread intuition that nature is intrinsically valuable.

If communication, education and public awareness measures want to address nature's non-instrumental values, explicit talk about the Good Life is necessary in order to guard against these misunderstandings. It is not necessary to reduce biological diversity to a mere instrument for the fulfilment of human needs

and desires. Positive communication on biodiversity can emphasise the quality of human lives and its relation to biodiversity without degrading biodiversity to a plain resource.

The road to follow is to engage in communication about the significance of biodiversity. What does biodiversity, or rather, what do particular elements of biodiversity, mean to people? What kind of relationship between humans and non-human beings do we consider to be appropriate and desirable? Is it human to support exploitative relations dominated by one-sided interests of the human part only? Or does humanity rather imply the pursuit of respectful and caring relationships?

Communication, education and public awareness measures are to be aimed at empowering people to establish more conscious and respectful relationships – to their human as well as non-human environments. Economic language may be prejudicial to such an endeavour. Distinguishing between more and less destructive ways of "using" biodiversity is much more illuminating than lumping together the most diverse kinds of uses as "utility". It does make a difference if I value an ecosystem for what it does for me or for what it is. To be sure, ecosystems bring about valuable services – but they are not mere servants. Relationships with non-human nature are of major importance for human well-being – but they are not commodities (→ section 6.4). The ideal of "living in harmony with nature" is not about wise use only. It entails consideration of other than self-interests and renouncement of use-options for the benefit of others.

9.4.2 Enough is enough

If biological resources are to suffice for granting a good life to all people living today and tomorrow, we have to learn to distinguish mere wants from true needs. In order to encourage such a debate, biodiversity communication needs to address questions of sufficiency.

Above, we argued that the concentration on win-win-scenarios leads to a neglect of distributive questions (→ section 9.3). Like in other fields of politics, the central question in biodiversity politics is "Who gets what – and why?" In claiming that biodiversity communication needs to address this question, we shifted the discourse on biodiversity into the context where the term 'biodiversity' was originally coined: that of politics.

However, the question concerning fair and equitable distribution of the benefits of biodiversity is not restricted to the field of Justice. To find answers to it, we have to enter into debate about the Good Life as well. Why this? The reason is that natural resources are finite. We cannot simply claim that everybody has the right to the same amount of natural resources. If we increased productivity so that everybody today had an equally high standard of living and consumption, the capacities of the ecosystem would not be sufficient. We would have to draw from the reserves for future generations. The current generation is already consuming more than her fair share of the resources and lives at the expense of her descendants. In order to fulfil the needs of all people today without compromising the ability of future generations to fulfil their needs, we therefore seriously have to think about the question as to what we really need – and what everybody has the same right to. In other words, we have to ask: How much is enough?

With regard to Sustainable Development one can differentiate three types of strategic approaches:

efficiency, consistency and sufficiency (according to Wuppertal Institut 1995). The difference between those strategies can be roughly characterised as follows:

1. **Efficiency** aims at the satisfaction of a given need by using less material and energy for the same output.

2. **Consistency** aims at the satisfaction of a given need by using renewable materials and recycling.

3. **Sufficiency** aims at achieving satisfaction by reducing the amount of needs.

If we are to accomplish a re-distribution of the benefits of natural resources in a sustainable manner, we need to encourage and to promote communication about all aspects that make our lives meaningful and worth living that do not require increased production and consumption. This means, biodiversity communication should make an explicit effort to address questions of sufficiency.

9.5 Let's talk about ethics

9.5.1 Addressing uncertainties with regard to ethics

The avoidance of ethics in NBSAPs originates in the quest for objective and rational arguments. To address existing uncertainties with regard to ethical questions it is important to set two records straight. "Emotional" does not mean "irrational" and "subjectivity" does not necessarily conflict with mutual understanding.

Ethical attitudes with regard to biological diversity are widespread among environmentalists. Respect for nature, aesthetic evaluation, and awe and wonder with regard to nature's fascinating complexity and functionality are well-known motives for professional as well as for amateur conservationists. Equally, moral judgements are commonly made with regard to biodiversity. Concerning unhampered loss of biological diversity, many do not only experience anxiety with regard to their own existence. Rather, they express sincere moral indignation.

Oddly enough, moral and ethical questions appear to play only a minor role in official biodiversity communication. Being political papers, NBSAPs are addressed to a heterogeneous public. Therefore, they seek to rely on rational and objective arguments. In contrast to empirical facts, ethical and moral values are obviously suspected of not being objective – and therefore not appropriate for justifying binding targets and measures.

To be sure there is an important difference between empirical facts and evaluative opinions – in chapter 1 we explicitly acknowledged this difference (→ paragraph1.1.1). However, empirical facts are not as "objective" as they are supposed to be and values are not as "subjective" as they are often thought to be. To value something in the broadest sense means to take an emotional stance on something. In this respect, values are "emotional" and "subjective". However, "emotional" does not mean "irrational". And "subjective" does not mean that mutual understanding between different subjects is impossible. For example, every person can understand what it means to suffer from the loss of beloved memorabilia. We all know that personal esteem for something and its detached use value may differ extremely. Hence, it is quite possible to make such experiences the explicit object of communication that aims at mutual understanding.

The fact that the Swiss biodiversity strategy was developing parallel to our study gave us the opportunity to observe the aforementioned uncertainties in the process of its ongoing advancement. The failure of its first draft in the earliest interdepartmental consultation was in part attributed to its emotional and subjective wording (Bachmann and Herrmann 2011, personal communication). The second draft reflected these objections by strongly emphasising rational and economic arguments. Its section on the meaning of biodiversity for society gives the impression that intrinsic value of nature and respect for nature were classic motives for conservation that were somewhat out-dated (SNBS 2011: 15). In the public consultation, however, this economic focus has been criticized in many commentaries. For example, the Swiss Academy of Science explicitly recommended including the intrinsic value of nature and the moral responsibility of humans with regard to biodiversity in the argumentation (Akademie der Wissenschaften 2011: 3). In the end, the final paper features a distinctive section on ethical aspects of biodiversity (SNBS 2012: 16). This section names biodiversity's intrinsic value as well as issues of justice related to the existential importance of biodiversity and the value of biodiversity for a good life. All good arguments for conservation, sustainable use and fair sharing of the benefits of biodiversity are, thus, appropriately addressed in the final version.

9.5.2 Being aware of ethics in biodiversity communication

This report aims at helping to address ethical issues in communication, education and public awareness activities. Arguments of Prudence, Justice and the Good Life are all good arguments. Contrary to widely held beliefs, they are all based on ethical foundations.

The report at hand was launched with the intention of stimulating discussion about ethical and moral questions related to national implementations of the CBD. Authors of national biodiversity strategies and people engaged in communication, education and public awareness measures often act on the basis of a too narrow concept of ethics. Only those arguments are considered to be ethical that do not refer to human interests, needs or desires.

In contrast to this understanding, we have shown in this study that all lines of argumentation involve, at their core, ethical commitments. Prudence, Justice and the Good Life all are based on evaluative and normative stances. The existential importance of biological diversity for the lives of all human beings is rightly viewed as an important argument. To be a really good argument, however, three essentials have to be explicitly acknowledged:

1. Arguments of **Prudence** rank long-term collective interests higher than short-term partial interests and thus require moral commitments.

2. Arguments of **Justice** are a necessary amendment to prudential arguments whenever the people who cause a decline of biodiversity and the people who suffer from the loss are not identical. This is true in intergenerational as well as intragenerational terms.

3. Arguments of the **Good Life** are a specification of prudential arguments that acknowledges that a decent human life requires more than the mere fulfilment of bodily needs. They explicitly address emotional, aesthetical, social, cultural, and spiritual capabilities of human beings.

9.6 References

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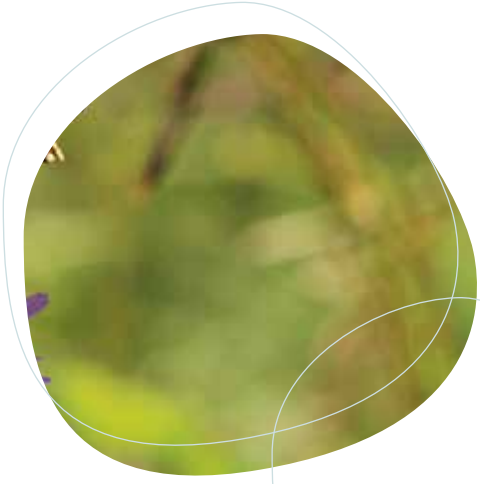

10 EXPANDING THE SCOPE: EUROPEAN NATIONAL BIODIVERSITY STRATEGIES IN COMPARISON

The long-term aim of this study is to inspire extensive communication about ethical aspects of biodiversity policies all over Europe. To this end, we were assigned the task of expanding the ethical analysis of the German biodiversity strategy (Eser et al. 2011) to other European national biodiversity strategies. The examples of Austria and Switzerland were selected for mainly pragmatic reasons: The three German-speaking countries already sustained a close cooperation with regard to conservation. To stimulate broader ethical debate in more European countries, the emerging European strategy was included into the present analysis, too.

In order to be able to expand the ethical analysis to further countries, we have provided an overview of existing European NBSAPs with special regard to communication and ethics. This overview is the result of a systematic comparative analysis of existing European NBSAPs that we conducted as a pilot study in early 2011.

Having analysed and compared the German, Austrian, Swiss and European national strategies in more detail, we do not expect an in-depth analysis of more strategies to quarry substantially new lines of reasoning. However, the characteristics that have been identified in the synopsis have proven to be useful for the trilateral comparison and might be valuable for other purposes, too. As the survey drew general interest at the dialogue forum on ethics in 2011, we have already published a summary of the comparison on the IUCN's homepage. In this chapter we present major findings of the pilot study in more detail. The summaries of all available strategies in forms of tables are to be found in the Appendix.

1. The first section explains the categories used for the systematisation of the NBSAPs (→ section 10.1)

2. Different kinds of document types and ties are presented in → section 10.2.

3. Differences with regard to form and content of NBSAPs are discussed in → section 10.3

4. The question as to who was involved in the strategy-making process is raised in → section 10.4.

5. Finally, we draw conclusions with regard to ethics and communication (→ section 10.5)

10.1 European National Biodiversity Strategies: What, How and Who

With regard to the aim of stimulating debate about ethical aspects in biodiversity strategies and the accompanying communication, the comparison of existing NBSAPs on a European scale was crucial in detecting interesting differences as well as similarities exhibited by the strategies. The analytical framework that has been developed for this synopsis could be useful for other studies and shall be elaborated in this section.

The present analysis is based on printed material only – we have analysed the original documents as well as secondary literature. This implies that neither the actual processes of developing the NBSAPs within the countries nor interviews with representatives have been taken into consideration. Further more, we have not gathered empirical evidence concerning the practical implementation. This approach has been chosen in order to guarantee equal consideration of all strategies accessible since in-depth qualitative assessment of all European strategies would have been impossible within the limited time-frame of the project.

The Norwegian strategy has been included, too, as the country is closely linked to the European Union and is a member of the European Economic Area (EEA). The other two non-EU members of the EEA, namely Switzerland and Iceland, did not feature a national biodiversity strategy at that time. For some EU member-states no strategy or equivalent was available in English yet. They have thus not been considered in the pilot study. Other than those, all national biodiversity strategies stemming from EU members have been analysed.

Our primary distinction accounts for the following characteristics:

1. The category "**What**?" concerns the document type and its ties to existing initiatives.

2. The category "**How**?" concerns the sectors, structures and special key aspects addressed by the document.

3. The question "**Who**?" names addressers and addressees of the document.

The country cases are presented in form of tables analysing three categories and nine sub-categories (→ table 10.1). The categories were chosen according to their helpfulness in providing a first overview as well as their relevance with regard to the research aim.

The following sub-sections present these variables and their relevance for a comparison of biodiversity strategies with a focus on ethics and communication in more detail.

Table 10.1 Categories used for the comparative analysis of European NBSAPs

What? Document type & ties	**How?** Sectors, structures & special focus	**What?** Document type & ties
Document type (legal status and/or formal characteristics)	Formal characteristics	Addresser(s)
Thematic coverage	Key aspects	Addressee(s)
Ties to existing (international) strategies, conventions and initiatives	Specific country characteristics	
	Structure	

10.2 "What"? Document type & ties

10.2.1 The CBD as a background

The reference document for all national biodiversity strategies is the Convention on Biological Diversity (CBD) which was opened for signature at the Earth Summit in Rio de Janeiro 1992. The convention aims at the conservation of biodiversity, its sustainable use, and the fair and equitable sharing of its benefits. To implement the global convention on the national level, all parties committed to developing National Biodiversity Strategy and Action Plans (NBSAP). While 193 countries are currently members of the CBD, 173 have developed formal NBSAPs, of which, according to Prip et al. (2010) a mere fraction can be considered to be substantive. Of the EU members, Malta and Cyprus are the only ones who have not delivered so far. As can be seen in the tables below, dates of CBD ratification as well as the initial publication of national strategies vary widely across the EU. Furthermore, some countries, such as the UK, have already developed a second generation plan while others took longer to implement their first version.

According to Prip et al. (2010), cross-country comparison shows that second generation NBSAPs tend to improve the first generation documents. They have a strong emphasis on mainstreaming across different sectors and are much more strategic and action-oriented. Furthermore, they have generally been prepared through a broader participation-process encompassing more stakeholders (Prip et al. 2010), which is a relevant feature from an ethical perspective. The Europe-wide comparison at hand partially underlines Prip's finding while it also provides a more differentiated view of NBSAPs and their development from generation to generation. Whilst Prip's statement holds true for countries such as the Netherlands, the United Kingdom and, to a lesser extent, Italy, whose second generation strategies are clearly aimed at a broader public and also take ethical issues into consideration, a second group of countries can also be identified. In these countries, the second generation strategy can be viewed as a mere supplement to its forerunner, which can thus only be understood together with the first document.

10.2.2 Document type

A central question of our analysis is to what extent national strategies address the three aims of the CBD. While some biodiversity strategies carry numerous references to the CBD and sometimes even copy its structure and phrases, other countries with a longer history of environmental policy-making base their strategies on pre-existing environmental documents. Thus, not all documents aiming at implementing the CBD are called 'National Biodiversity Strategy'. For example, Norway's current biodiversity strategy is incorporated into the report to the Storting (general assembly, Norway's parliament) dealing with environmental matters. Some countries add special titles or subtitles to their strategy which function as a claim. In this manner, the Netherlands' title "Biodiversity works – for nature, for people, forever" is quite telling in terms of the strategy's scope and ambition. Some titles can be read as favouring one of the CBD's three goals over the others. Hence, the UK's "Conserving Biodiversity – the UK approach" puts a strong emphasis on conservation as opposed to sustainable use and sharing of benefits.

Besides the title, the very layout of a strategy indicates its expected audience; some strategies, like the one from Slovakia, are extremely formal documents which are clearly aimed at policy makers and experts exclusively. In this vein, Romania's strategy is an assembly of different legal texts but does not try to engage the public. In contrast to such approaches, the Finnish strategy – fittingly called "Saving Nature for People" – is neatly illustrated and tries to appeal to a broader audience. A few countries exhibit several documents of which one is specifically designed for laypeople. In these cases, we have analysed the documents that are specifically outlined for communication purposes with regard to our specific research interest.

As already mentioned above, it is crucial to be aware of the advancement of NBSAP processes in a given country. Therefore, the generation (1st, 2nd or even 3rd) a strategy belongs to is always indicated. If strategies – as is the case with the Polish document – could only be assessed together with the respective preceding document, this is also stated.

10.2.3 Thematic coverage

One result of their international comparison of NBSAPs, pointed out by Prip et al. (2010) is the uneven coverage of CBD goals within national strategies. Topics falling under the conservation objective feature dominantly in nearly all strategies while sustainable use is tackled significantly less and only a mere 12% of CBD parties have adopted legal or regulatory Access and Benefit Sharing (ABS) measures. Beyond the distinction between different degrees of emphasis on the three CBD objectives made by Prip et. al., one can also identify other policy priorities within the strategies. Relevant questions include whether the country focuses on technical matters, whether it stresses a cross-sectoral approach or whether it takes the approach of building new institutions and frameworks. Spain, for example, provides a broad and encompassing framework of social, scientific, economic, legal and institutional instruments, thus showing its understanding of biodiversity as not merely a technical but also a socio-political issue. Norway stresses the agricultural sector while the Netherlands are more concerned with their global impact on biodiversity and therefore concentrate on production chains.

Naturally, a complete list of all themes covered by an NBSAP is beyond the scope of this analysis. Rather, we aimed at identifying the points that seemed important to the countries themselves as well as sketching their priorities.

10.2.4 Ties to existing conventions, strategies and initiatives

Per definition, all of the analysed countries are part of the CBD. However, there are slight differences concerning the date of ratification within the country or whether a country entered by ratification or approval.

Some national strategies put special emphasis on relevant EU policies such as the Habitats and Birds Directives while others focus on national or regional efforts.

Again, a complete listing of relevant agreements, conventions and initiatives was neither possible nor desirable within the scope of this study. However, for each country an overview is provided, concentrating on those international or regional agreements, conventions and initiatives that special focus was placed on within the NBSAP. Many interesting points were revealed here.

For most countries the convention most relevant for biodiversity issues besides the CBD is the United Nations Framework Convention on Climate Change (UNFCCC) but Spain puts special emphasis on the UN's Convention to Combat Desertification (UNCCD) as this issue is of special national importance, whereas Finland is a country that mentions the UN's Millennium Development Goals (MDGs) in relation to biodiversity conservation and use. This underlines the Finnish focus on anthropocentric reasons for conserving biodiversity ("Saving Nature for People"). But not only signed documents are mentioned: Sometimes, countries also highlight their aspirations. This is the case with Ireland, which seeks the extension of ASCOBANS (Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas) and Norway, which aims at streamlining its environmental policies with EU legislation.

10.3 "How": Sectors, structures & special focus

10.3.1 Formal characteristics

This category indicates the date of publication and the length of the relevant document(s). The former can be helpful when considering the document's historic context, the latter when gauging its scope. This category was of special interest when several generations of NBSAPs could be assessed. In the case of Italy, the first generation strategy (1994, 31 pages) was extended considerably, as the second generation is much more comprehensive and elaborate (2010, 204 pages).

10.3.2 Key aspects

Diverging from the more general category of thematic coverage, we aim at identifying certain variables crucial to our understanding of the party's approach to ethics and communication by scrutinising key aspects. Those key aspects include the pertinent question as to whether a NBSAP is mainly concerned with biodiversity within the country it was drawn up for or on a global scale. The Netherlands, for example, exhibit a very globally-oriented strategy which puts an emphasis on the role of Dutch consumption and Dutch production chains in global biodiversity loss. Other strategies like those of the Central and Eastern European countries (CEEs) concentrate clearly on biodiversity within their borders and hardly mention global responsibilities. The CEE's concern with national biodiversity questions can also be interpreted as indicating that the relatively young states take pride in their environment and environmental policy. This is reflected in the Latvian strategy where a whole chapter is dedicated to "planning and protection of biodiversity after re-independence". Spain's document "National Strategy for the Conservation and Sustainable Use of Biodiversity" identifies challenges and opportunities for biodiversity within Spain while at the same time upholding the principle of shared responsibility of all humanity which materializes in Spanish cooperation with indigenous communities abroad.

Another key aspect is represented by the question as to whether countries explicitly mention **reasons** for caring about biodiversity and if not, which reasons are conveyed implicitly by their documents. A few parties, like Belgium, dedicate a whole section to reasons behind biodiversity policies, while others mention the CBD itself as the sole motivator for their policies. Naturally, countries with strategies addressing a broader public also outline more justifications for their policies than those with purely legalistic documents. It is very rare, however, for a country to devote a whole chapter to ethics. In summary, most countries prioritise Prudence whilst mentioning Justice and the Good Life only in passing – if they do mention them at all. Interestingly, there are some notable exceptions. The Baltic States (Latvia, Lithuania and Estonia) accentuate the cultural value of biodiversity as well as the value of culture for biodiversity. In this manner, Latvia makes a reference to the forefathers of modern Latvian society and their culture of biodiversity. Estonia even features a plan for conducting an analysis of "popular valuation of biodiversity" as part of its first generation strategy. In contrast to the Baltic approach, the Netherlands put inter- and intragenerational justice at the forefront of their line of argument.

Public accessibility is another key aspect that varies widely among strategies and does not seem to be influenced by regional or economic status. For example, among the Central European countries Slovenia's strategy is inaccessible, Slovakia's is very formal and legalistic, the Czech strategy is obviously designed for a broad audience while the Polish strategy is a mixture of the two.

Another key aspect concerns the inclusion of different sectors, communities and indigenous people. Almost all strategies feature the buzz-word participation in some form or another. The decisive momentum is the scope of participation as defined in the strategy. On one end of the spectrum lies Italy, a country in which participation in biodiversity

policies is portrayed very narrowly as the creation of employment opportunities through sustainable use of resources, on the other end lies Spain, where the government is aware that traditional knowledge is lost and that the public needs to be included into planning and exercising biodiversity policies. As will be seen later, participation in drafting the strategy (primary stakeholders) was present in many countries. And yet, this momentum of extensive participation is lost, if the implementation process features no mechanism for involving the same stakeholders (Prip et al. 2010).

10.3.3 Specific country characteristics

Each strategy has to match the challenges on the ground. External conditions such as a country's history, its specific path of development, its population, its integration into the global economy etc. are reflected in the policies it develops. Thus, it is impossible to look at NBSAPs independently from the specific conditions of the drafting process. Acknowledging that it is unfeasible to address all relevant circumstances, this analysis tries to isolate relevant variables. These are comprised of "natural" as well as "social/historic/economic" parameters, although these cannot be truly separated. The variability of specific country characteristics ranges from historic events and modes of agriculture to the challenge stemming from invasive species and extreme and unforeseeable natural events.

The historic impact on a country's biodiversity situation can be illustrated on the basis of the Baltic experience. Soviet modes of production brought benefits for biodiversity in some places: restrictions on development of some regions and complete abandonment of others led to Estonia's coastal region being in much better shape than other European coasts. However, they also left negative impacts like Latvia's huge industrial centre, which has many environmental problems (Keilbach 2006). In the Czech Republic, most nature reserves are still state-owned because they are located along the border to Germany in regions from which German minorities were displaced when the land became state-owned (Kluvánková-Oravská et al. 2010). In the Czech Republic's current NBSAP, "unreclaimed areas" like former mining sites play a prominent role. The aforementioned global outlook of the Dutch strategy can also be traced back to its history. For example, the Dutch strategy mentions private-public partnerships in sustainable palm oil production in its former colony Indonesia.

10.3.4 Structure

The subcategory 'structure' differs from its counterparts 'document type' and 'thematic coverage' in so far as it specifically addresses the actual design of the document that can materialise in different forms. For instance, most countries present the national strategy and the action plan within one consecutive document. However, a few NBSAPs exist that are published in two separate papers. In addition, the structure of a NBSAP can transcend the document analysed in this framework.

This is typically the case with countries that exhibit a high degree of federalism. In this vein, Denmark's biodiversity strategy does not encompass the Faroe Islands and Greenland but points to their national strategies. A slightly different approach is taken by the UK, which has an integrative strategy paper for England, Wales, Scotland and Northern Ireland that functions as an umbrella for the respective national documents. The Spanish national strategy is regarded as the logical bridge between the European and the regional strategies. Belgium's strong federalism has led to the case that the regional levels have already adopted their own plans independent of the national strategy.

The structure of any given NBSAP can not only indicate the political framework within a country – for example a strong federalist structure – but also

provide clues pertaining to the localisation of the strategy within a global or European context. The newest Dutch strategy does not put the Netherland's Action Plan within the appendix but rather the European Commission's (EC) Action Plan with references to its relation to the national strategy. The structure of the Czech NBSAP is explicitly oriented along the structure of the EC's strategy.

10.4 "Who": Actors and Alliances

10.4.1 Addresser(s)

To comprehend NBSAPs it is crucial to answer the question "Whose strategy is it?" In their extensive comparison, Prip et al. (2010) acknowledge the importance of intersectoral and interministerial coordination in the NBSAP drafting process. But not all parties involved in the process can act as publishers for the strategy. Characteristically, the Ministry of the Environment functions as the NBSAPs addresser. Only a small minority of NBSAPs considers biodiversity in a broader developmental context. Hence, development ministries are not often featured among the addressers. In this context, the Netherlands are an interesting example as the strategy was co-produced by the Dutch Ministry for Development Cooperation. Rarely, several actors take the responsibility for the strategy, as is the case with Belgium. In some cases, the addressers did not share a national, but rather an international background, as has been the case with the Baltic States, which were assisted by the UNDP, the World Bank and the GEF respectively.

10.4.2 Addressee(s)

To understand a country's approach to biodiversity, it is also vital to look at the people to whom the strategy is directly aimed – its primary and secondary stakeholders. We define primary stakeholders as parties that are involved with the document on a deeper level, either by being subordinated co-authors or by signing it. A very important primary stakeholder is epitomised by the institution that endorses a strategy, for example the Minister for the Environment. As NBSAPs evolved, there has been a trend towards higher levels of adoption, like parliamentary approval, reflecting the increased political attention given to biodiversity. While endorsement at higher political levels is essential for a successful NBSAP, it does not in itself guarantee that the NBSAP will be successfully implemented (Prip et al. 2010). Furthermore, it is important to look at the political competences of primary stakeholders: purely administrative decentralisation without devolution of political authority is not helpful. This type of top-down decentralisation can be witnessed in Romania.

In contrast to primary stakeholders, secondary stakeholders do not feature prominently in the drafting of a strategy but are assigned important tasks in the field of monitoring, evaluation and awareness raising. Those secondary stakeholders typically include ministries, scientific bodies, NGOs, municipalities and sometimes even broader civil society.
Spain and the Netherlands, for example, emphasise the inclusion of private companies whilst the United Kingdom highlights the importance of volunteers. Sometimes, it is also helpful to look at who is not mentioned as a secondary stakeholder. The Polish strategy, for example, does not mention the foreign ministry even though cooperation with neighbouring countries – and therefore a cross-boarder take on biodiversity – is highlighted within the document.

10.5 Conclusions with regard to ethics and communication

Even though only a small number of countries dedicate a whole section to the question on why biodiversity should be conserved and used sustainably – among them the UK, Belgium and Germany – most countries utilise implicit reasoning throughout their strategies. Each one of these lines of arguments holds its own logic and set of values. For instance, the Netherlands put an emphasis on intragenerational justice and their own global biodiversity footprint while Finland stresses the cultural value of biodiversity. Other countries, such as Austria, put the rights of future generations at the forefront whereas some of the emerging national economies in Eastern Europe point to the role of biodiversity in achieving long-term development, as is observable in the Bulgarian strategy.

A Europe-wide comparison of national biodiversity strategies has to take these differences into consideration, as well as specific natural and socio-economic country characteristics. The last section names some methodological and theoretical aspects relevant for the choice of future research questions and subjects.

10.6 Selecting Further Strategies for Analysis

As shown by means of the above summary and in more detail through the comparative tables listed in the appendix, comparing the quite diverse European NBSAPs is an interesting field. For a more in-depth comparison of the role of ethics in national biodiversity strategies, the strategies have to be carefully chosen according to the respective research question. The section at hand aims at addressing two interrelated questions:

1. What are interesting research questions?

2. Which countries could be selected for a more in-depth comparison addressing those research questions?

Conceptually and with regard to the first question, this section uses the concepts of independent and dependent variables to differentiate between the various positions NBSAPs can take within a research proposal. Pertaining to the second question, not all countries suitable for comparative analysis will be listed. Instead of a comprehensive and all-encompassing list, this section will give examples of and suggestions for possible case studies.

In the social sciences, a variable is any concept that can take different values (van Evera 1997). According to this logic, the comparative analysis has assigned various values to the different variables that make up a given NBSAP. For example, the number of secondary stakeholders mentioned in a strategy can be viewed as such a variable, but also the date of issue of the strategy or the type of international conventions referred to within the strategy. An independent variable is therefore a variable framing the causal phenomenon of a theory or hypothesis (ibid: 10). For the hypothesis "long NBSAPs lead to better conservation outcomes" the length of any given NBSAP (for example measured in page numbers) serves as on independent variable while the conservation outcome is the dependent. Another example would be the statement "a section on ethics leads to public appreciation". Here, the existence or non-existence of a section on ethics constitutes the value that the independent variable NBSAP can take. In contrast, the NBSAP can also serve as dependent variable. A dependent variable is a variable framing the caused phenomenon. In the assumption "large stakeholder participation in the drafting process leads to a more comprehensive NBSAP", the NBSAP here server as a dependent variable.

Whilst assigning dependent and independent variables to hypotheses cannot work in a clear-cut manner due to their very nature, it is essential for realising what the research question is all about and according to which criteria case studies – in our case studies on European countries and their national biodiversity strategies – should be conducted. Thus, the following abstracts will look at various possible research questions and identify whether NBSAPs and their features are taking the place of dependent or independent variables. Where suitable, examples of possible case studies will be provided based on the findings of the preliminary analysis. The bulk of questions (7 in total) focuses on NBSAPs as dependent variables. They are briefly sketched in the following.

1. Preliminary analysis, as well as past studies (Prip et al. 2010), has shown that NBSAPs tend to evolve from generation to generation. Here, the research could concentrate on features that changed between the first and the second generation strategy, thus treating the NBSAP as a dependent variable. As some second generation strategies, most obviously those of the United Kingdom and the Netherlands, were much more oriented towards the general public than their predecessors, one could also analyse to what degree the ethical lines of argumentation changed from strategy to strategy. Estonia would also provide an interesting case study as it emphasised the cultural value of biodiversity within its first strategy and planned a survey on the population's values vis-a-vis biodiversity. Taking an in-depth look at Estonia's second strategy and

the way these "popular values" feature within it thus presents a promising endeavour.

2. In general, NBSAPs cannot be viewed as detached from the history of environmental politics in a country. It would thus be worthwhile to scrutinise these path dependencies and identify historical footprints left on a strategy. Here, a comparative analysis could focus on the Central and Eastern European countries as relatively new nations. Likewise, countries with a colonial history, like the UK, the Netherlands but also Spain could be analysed highlighting the global outlook of their strategies.

3. Countries' NBSAPs can also be grouped according to regions. In this vein, the research question would address the impact that belonging to a certain region and thus facing similar challenges has on a strategy. Looking at the findings of the preliminary analysis, the Iberian Peninsula, the Central European countries and the Baltic States come to mind. However, one could also look at strategies that stem from clearly different regions but share similar attributes (as a broad outlook on intergenerational justice, for example) and thus identify the factors that possibly led to the outcome.

4. NBSAPs could also be assigned to different economic clusters of countries: Are strategies stemming from economically weaker countries generally different from those published by richer nations or does economic wealth have no influence whatsoever on the character and communication of an NBSAP?

5. Looking into the matter of economic conditions more extensively, one research question could also be whether the economic interests and challenges of countries have shaped their strategies. Maybe a country highly dependent on agriculture communicates biodiversity issues differently than a country mostly depending on its industrial sector? In the preliminary analysis one can make out several countries for which tourism is an important sector or which see their chances in this realm, like Spain or Bulgaria. Here, the sustainable use aspect with regard to biodiversity and the integration of local stakeholders was highlighted.

6. Looking at the political landscape of Europe, sketching differences and similarities between NBSAPs of old and new EU-members also seems fruitful. In this respect, one could for example analyse whether new or old members share a certain approach to communication or highlight certain ethical reasons for conserving biodiversity.

7. Another finding of the preliminary analysis pertained to the impact which federalism had on the structure and line of argumentation of NBSAPs. Hence, various European countries featuring a strong degree of federalism, like Spain, could be compared.

With regard to research questions and hypotheses focusing on NBSAPs as an independent variable, two possible questions that also concentrate on ethics and communication come to mind.

1. Firstly, one could address the question as to how ethical reasoning and communication within a strategy affects the actual implementation of the NBSAP within the country.

2. Secondly, it would also be interesting to investigate how provisions for participation affect the actual participation taking place. Are there best-practice models or examples of empty talk without outcome?

For both questions, case studies would have to be chosen that are either very similar or absolutely different in their approach to ethics and participation (most similar versus most different case design) in order to detect the impact of the strategies'

provisions. In summary, there is a wide spectrum of possible in-depth research into European NBSAPs with a focus on ethical reasoning and communication. However, it is vital to select case studies based on their usefulness for answering a specific research question or hypothesis. The present summary of European NBSAPs thus has the benefit of presenting a myriad of open questions – not answers.

A summary of this chapter is available at
http://iucn.org/about/union/secretariat/offices/europe/?8119/
European-National--Biodiversity-Strategies-and-Action-Plans---A-Summary

10.8 References

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Prip, C.; Gross, T.; Johnston, S.; Vierros, M. (2010): Biodiversity Planning. an assessment of national biodiversity strategies and action plans. http://www.ias.unu.edu/resource_centre/UNU-IAS_Biodiversity_Planning_NBSAPs_Assessment_final_web_Oct_2010.pdf; 12.12.2011.

Young, J.; Richards, C.; Fischer, A.; Haladas, L.; Kull, T.; Kuzniar, A.; Tartes, U.; Uzunov, Y.; Watt, A. (2007): Conflicts between Biodiversity Conservation and Human Activities in the Central and Eastern European Countries. In: Ambio. 7, 36; p.545–550.

APPENDIX

OVERVIEW IN TABLE FORM: EUROPEAN NBSAPS

BELGIUM

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • Belgium's National Biodiversity Strategy 2006-2016 (2006) Clearly aimed at broad public; strategy available in four languages (German, English, French, Dutch)
Thematic coverage	15 strategic objectives and 78 operational objectives; main strategic objectives include: promoting sustainable use of components of biodiversity and integrating biodiversity concerns into all economic and social sectors. Strategy established for a 10-year period (2006-2016). Neither specific actions nor targets are adopted in strategy itself but will be adopted at a later stage
Ties to existing (international) strategies, conventions and initiatives	• CBD ratification 1996 • Relevant other policies and programmes • EU-level: Natura 2000 • Regional: Several transboundary projects with neighbouring countries such as the Benelux conventions on hunting and conservationInternational • International: Appendix 2 shows long list of UN conventions such as UNFCCC, Wetlands Convention, CITES
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	2006, 100 pages
Key aspects	• Focus on biodiversity within Belgium and the regions; multiple dimensions of reasons for protecting biodiversity: provision of resources, underpinning of human well-being, recreational opportunities, source for learning, education, inspiration and cultural identity; intrinsic value is only mentioned briefly; justice in environmental matters is exclusively linked to information and participation within Belgium • Whole section dedicated to question "why does biodiversity matter?"; focus mainly on ecosystem services. • Approach to participation linked to justice in environmental matters: including public into monitoring, public participation in protected areas, promoting stakeholder at all levels of decision-making; generally participatory approach to communication; self-critical assessment of communication initiatives

BELGIUM

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	Belgian federalism: environmental matters essentially matters of regional competence. Between one half or a third of the species in Belgium are threatened or extinct. Main threats to biodiversity are fragmentation and destruction of habitats, pollution and eutrophication, climate change, invasive alien species and perturbation due to tourism and recreational activities.
Structure	Strong federalism: regional and federal levels have already adopted their own plans independent from strategy; Cross-references to regional plans in strategy.
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Drafting process initiated by the Interministerial Conference on the Environment (regional and federal environment ministries as well as the Minister of Mobility, Secretary of the State for Sustainable Development, Minister of Economy); Elaborated by a team representing the major actors in the field of biodiversity in Belgium.
Addressee(s)	Primary Stakeholders: Strategy endorsed by the Interministerial Conference on the Environment Secondary Stakeholders (mentioned in Appendix 1): Ministries and administrations in three regions and at federal level (environmental, nature, and agriculture); advisory and consultative bodies; research institutes; NGOs, local actors and private sector
LINKS	
Primary sources	National Biodiversity Strategy (2006) http://www.cbd.int/doc/world/be/be-nbsap-01-en.pdf

BULGARIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • National Biodiversity Conservation Strategy NBCS inspired by the Pan-European Strategy for Landscape and Biological Diversity; hence, strategy was publish before CBD was ratified; strategy also reflects recommendations contained in the World Bank's 1992 "Bulgaria Environment Strategy Study" • There also exists the National Biodiversity Conservation Plan 1999-2004 by the Council of Ministers, a purely legal document. Strategy probably not aimed at broad public but goes well beyond a purely legal text.
Thematic coverage	• Clear focus on conservation; Land and resource management is identified as key to conserving biodiversity in Bulgaria; Sustainable use is implicit in some chapters for example when ecotourism is stressed as opportunity • 96 activities have been identified to address Bulgaria's priorities: First priority is the drafting of acts, normative acts and information/managerial documents, followed by the institutional strengthening of government biodiversity units, the establishment and maintenance of a national eco-network and protected area network, restoration and maintenance activities, strengthening of the scientific base for biodiversity conservation, and finally education and training
Ties to existing (international) strategies, conventions and initiatives	• CBD ratification 1996 • Relevant other policies and programmes: • EU-level: Habitats Directive; Flora and Fauna Directive • Regional: two fishing conventions: fishing in the Danube and fishing in the Black Sea • International: Bern Convention; CITES; Wetlands Convention • Bulgaria's strategy inspired by the Pan-European Strategy for Landscape and Biological Diversity
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• National Biodiversity Conservation Strategy: 1993, 116 pages • National Biodiversity Conservation Plan: 1999, 48 pages
Key aspects	• Focus on biodiversity within Bulgaria; Reason for preserving biodiversity: Bulgaria's long-term economic well-being. Education chapter states that people should be educated about "values of biodiversity" but does not name those values specifically • Emphasis on NGO cooperation; Education seen as top-down process but own chapter dedicated to fostering collaborative partnerships; Several mechanisms for implementing proactive approach like the Consultative Council to the Minister of Environment and Water with the participation of official representatives of governmental agencies, academic circles, NGOs, and conservation groups

BULGARIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	Among the European countries richest in mammal biodiversity (94 species, including brown bear and jackal); Main challenge: human activities; drainage of many wetland areas, particularly between the 1950s and 1990s, resulting in the loss of over 189 000 ha of wetlands; Bulgaria made an exception for wolf protection which is in conflict with the habitats directive; deforestation also major problem but 35% of Bulgaria are still covered by forests; Bulgaria ranks as lowest-income member-state of the EU; only 5% of the country are covered by protected areas
Structure	Identified actions set in a five-year-plan; Follow-up: National Biodiversity Conservation Plan 1999-2004
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Process leading to strategy funded by USAID and coordinated through WWF; carried out by Bulgaria's ministry of Environment
Addressee(s)	Primary Stakeholders: Strategy product of a workshop in 1993 with participation of 75 scientists, government officials and NGOs; Ministry of Agriculture; Ministry of Regional Development and Construction; Committee of Forests; Committee on Tourism Secondary Stakeholders (mentioned in Appendix 1): Energy Committee, different Unions, Ministry of Education and Science; Ministry of Industry; Ministry of Trade and Tourism (see page 5: other governmental participants)
LINKS	
Primary sources	National Biodiversity Strategy (1993) http://www.cbd.int/countries/profile.shtml?country=bg#status National Biodiversity Conservation Plan 1999-2004 (1999) http://chm.moew.government.bg/IndexDetailsE.cfm?vID=11&vPage=1
Secondary sources	Young et al (2007): Conflicts between Biodiversity Conservation and Human Activities in the Central and Eastern European Countries http://pinnacle.allenpress.com/doi/pdf/10.1579/0044-7447%282007%2936%5B545%3ACBBCAH%5D2.0.CO%3B2

CZECH REPUBLIC

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• National Biodiversity Strategy coordinated by the Ministry of the Environment and the Agency for Nature Conservation and Landscape Protection of the Czech Republic • Not exclusively aimed at government but not at laypeople either
Thematic coverage	• In coherence with the European Commission's Strategy, all strategic themes and sectoral areas are given equal attention; A case study puts a special focus on unreclaimed areas (esp. Brownfields and old mining sites) • 12 strategic themes have been identified covering issues of conservation, sustainable use, monitoring, research and communication • 11 chapters deal with biodiversity in sectoral and area policies which also includes climate change and biodiversity as well as access and benefit-sharing and development cooperation
Ties to existing (international) strategies, conventions and initiatives	• CBD party since 1994 (by approval) • Relevant other policies and programmes: • EU-level: Pan-European Ecological Network, PEEN; Natura 2000; Birds Directive; Habitats Directive • Regional: all Czech National Parks are in fact bilateral NPs • International: UNCCD; UNFCCC; wetlands (Ramsar) convention, BONN CONVENTION
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 2005, 136 pages
Key aspects	• No reference to why biodiversity should be protected • Focus on biodiversity within the country • Participation of NGOs as an objective in identification and monitoring of biodiversity; information and participation of the public identified as problem areas, cooperation through mass media one goal; NGOs especially active in informing and educating the public about biodiversity; mainly, information and communication seen as technical problems

CZECH REPUBLIC

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Despite its small size characterized by a high wild plant and animal species richness and diversity - results of its geographical position at the boundaries between several biogeographical regions and also of cultural and historical developments • After the transition, few protected areas were privatized: Most nature reserves are still state-owned because they are located at the border region to Germany from where German minorities were displaced after World War II which meant that the land became government-owned
Structure	• Division into A.) Strategic Themes and B.) Sectoral and Area Policies • The preparation of an Strategic Action Plan elaborating specific measures was required by 2008 but is not available so far
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment
Addressee(s)	Primary Stakeholders: Agency for Nature Conservation and Landscape Protection of the Czech Republic (strategy partly coordinated by the Agency) Secondary Stakeholders: Academy of Sciences of the CR; NGOs; Centres of Environmental Education; Ministries of Agriculture; Education; Industry and Trade; Labour and Social Affairs; Transport
LINKS	
Primary sources	National Biodiversity Strategy (2005) http://www.cbd.int/doc/world/cz/cz-nbsap-01-en.pdf
Secondary sources	Kluvánková-Oravská, T. et al (2009): From Government to Governance for Biodiversity. The Perspective of Central and Eastern European Transition Countries. http://onlinelibrary.wiley.com/doi/10.1002/eet.508/abstract

DENMARK

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation • 1st strategy presented 1996 • National Biodiversity Strategy; Action Plan (2004-2009). Strategy itself is very elaborate and probably aimed at a wider audience
Thematic coverage	• 104 targets of strategy • Highly concerned with forests as well as re-establishing 8,000 hectares of salt-marsh by 2025, increasing the knowledge of biodiversity, and drafting management plans within all groups of species; strategy covers all major landscape types in Denmark • Although a lot of policy targets are identified, there is no action plan or implementation framework as implementation is done separately in Denmark, Greenland and Faroe Islands
Ties to existing (international) strategies, conventions and initiatives	• Ratification of CBD in 1993 • Relevant other policies and programmes: • EU-level: Natura 2000; Birds Directive; Habitats Directive • Regional: Regional conventions for the protection of marine environment in the North East Atlantic (OSPAR) • International: Wetlands (Ramsar) Convention; CITES; Bonn Convention
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 2003, 196 pages (Strategy), 76 pages (Action Plan for Denmark)
Key aspects	• Clear focus on biodiversity within the Kingdom of Denmark • Short section about values of biodiversity: reasons for protecting biodiversity in industrialised countries primarily moral and aesthetic; "moral" mostly concerned with intrinsic value of biodiversity, no reference to moral obligations vis-a-vis fellow human beings; no mention of justice as a reason • "Human survival" seen as simpler (and better) reason; communication equals environmental education • Wide stakeholder participation in drafting and implementation of strategy • Regarding participation of local and indigenous communities, the people of Greenland (90% Inuit) already have a high degree of self-governance; the Faroe Islands also have their own biodiversity strategy

DENMARK

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Kingdom of Denmark is composed of Denmark, Greenland and the Faroe Islands, each having extensive autonomy on matters of environment and thus biodiversity • Denmark has very few natural or semi-natural areas • Drastic biodiversity decline (last 200 years) has stabilized
Structure	• Implementation of strategy is done separately in Denmark, Greenland and the Faroe Islands. Close collaboration exists on many issues. Denmark's strategy structured according to ecosystems/ habitats, species, genetic diversity, information and public awareness, accumulation of scientific knowledge • On the CBD website, Denmark's Action Plan is directly attached to the strategy
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Danish Forest and Nature Agency; Ministry of the Environment and Energy
Addressee(s)	Primary Stakeholders: Interministerial working group: Ministries of Environment and Energy; Food, Agriculture and Fisheries; Defence; Transport; Economy; Culture; Education; Justice; Foreign Affairs; Ecclesiastical Affairs (see Annex A) Secondary Stakeholders: Local governments and communities
LINKS	
Primary sources	National Biodiversity Strategy (2003) http://www.cbd.int/countries/profile.shtml?country=dk#nbsap

ESTONIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation available • 2nd Generation announced • Estonian Biodiversity Strategy and Action Plan (1999) • New plan covering the 2007-2013 time frame has been announced for 2007 • Outlook of strategy is very formal and does not address wider public
Thematic coverage	• Strategy and Action Plan contains 28 objectives; 408 actions for successful realization are detailed • Estonia lists 5 science tasks as being of the highest priority among them identifying the role of nature in Estonian culture • Status of biodiversity protection and main objectives are analysed with regards to ten sectors ranging from landscape planning to genetic resources, transport and industry
Ties to existing (international) strategies, conventions and initiatives	• CBD party since 1994 by ratification • Relevant other policies and programmes (exc.) • EU-level: Natura 2000; Habitats Directive; Birds Directive • Regional: Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area • International: Bern Convention; CITES; Wetlands (Ramsar) convention

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	1999, 165 pages
Key aspects	• Focus on biodiversity within Estonia; importance of open communication and public participation highlighted; emphasis on biodiversity's cultural importance and value • No direct reference to ethics but scientific aim of analysing popular valuation of nature in Estonia; identification of role of nature in Estonian culture one of the highest priorities within the action plan • Broad coalition of institutions and interest groups in formulation and implementation of the strategy • Small island communities are being effectively involved in decision-making through the Estonian Small Islands Act

ESTONIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Estonia, the northernmost of the Baltic states, is currently witnessing a decrease in agricultural areas linked to an increase in forests: from 21% in 1918 to 51% in 1994 • Main threats to habitats include drainage and peat extraction for wetlands; Threats for marine habitats: over-fishing and pollution. Benefits of Soviet restrictions: completely abandoning some areas and prohibiting development in others • Estonian coasts in much better shape than other European coasts
Structure	• Review of Estonian process, assessment of measures and sectors • Strategy, Action Plan and financial plan all integrated into one document
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Estonian Ministry of the Environment; United Nations Environmental Programme (UNEP)
Addressee(s)	Primary Stakeholders: Government of the Republic of Estonia; Nature Conservation Department of the Ministry of the Environment; Estonian Committee on Sustainable Development (ministerial ad hoc group) Secondary Stakeholders: Several NGOs and scientific agencies; Ministry of Social Affairs; Ministry of Education; Ministry of Economic Affairs; Ministry of Agriculture (also see "responsible organisations" under VI, Action Plan)
LINKS	
Primary sources	National Biodiversity Strategy (1999) http://www.cbd.int/doc/world/ee/ee-nbsap-01-en.pdf
Secondary sources	Keilbach, Patricia (2006): Governance or Government? Explaining Pathways to Nature Protection in New EU Member States. http://www.ceeisaconf.ut.ee/orb.aw/class=file/action=preview/id=169191/Keilbach.pdf

FINLAND

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation • A national Action Plan already existed for 1997-2005 • National Strategy and Action Plan: 2006-2016: "Saving Nature for People" • Not aimed at public authorities exclusively; clearly designed for broader public
Thematic coverage	• 124 measures: priorities are the five strategic objectives lined out in the strategy. Improving the conservation and management of biodiversity, intensifying sectoral responsibility, building up an improved knowledge base, strengthening co-operation, improving Finland's international influence • The following main chapters of the Action Plan deal with habitats and natural resource use, species, conservation and sustainable use of genetic diversity, cross-cutting measures, international measures for implementing the CBD, the implementation of the biosafety protocol; monitoring and impacts of the Action Plan
Ties to existing (international) strategies, conventions and initiatives	• CBD party since 1994 by acceptance • Relevant other policies and programmes: • EU-level: Natura 2000; Habitats Directive • Regional: various initiatives such as "twinning projects" with Estonia and Hungary to foster cooperation between Eastern European and Baltic States; Arctic Council Council Conservation of Arctic Flora and Fauna (CAFF) working group • International: Wetlands (Ramsar Convention); CITES; Millenium Development Goals (MDGs)
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	2007, 159 pages (Strategy and Action Plan combined)
Key aspects	• Strategy stresses responsibility within Finland as well as international cooperation • No ethics-section but cultural and spiritual significance of biodiversity are emphasized and nature conservation is seen as a value; "own irreplaceable value" of biodiversity mentioned; rights of people to future livelihoods and on a worldwide scale: intra- and intergenerational justice • Title indicates anthropocentric approach • Biodiversity seen as cross-sectoral topic, not only concerning nature conservation but also modes of production and trade; monitoring group is composed of members from various ministries • Participation of indigenous people: Sami-parliament member of Finnish National Biodiversity Committee.

FINLAND

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• First EU member state to renew its national strategy • Biodiversity as shared responsibility between public authorities and private citizens and entities • Main challenge for Finland: inland waters and their biodiversity; waters affected by changes in water quality, hydrological engineering projects, artificial regulation of water levels, proliferation of non-native species and artificial additions to native fish stocks
Structure	• Divided into national strategy and national Action Plan, both compiled in one document
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment, Land Use Department
Addressee(s)	Primary Stakeholders: Ministry of Agriculture and Forestry; Ministry of Transport and Communications (for marine research); Ministry of Education and Culture (museums, education) Secondary Stakeholders: Ministry for Foreign Affairs (also for devel¬opment cooperation); education sector, business sector, research institutes; NGOs
LINKS	
Primary sources	National Biodiversity Strategy (2007) http://www.cbd.int/doc/world/fi/fi-nbsap-v2-en.pdf

IRELAND

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • National Biodiversity Plan sets out framework for conservation and sustainable use of biodiversity over a five-year period • Very formal layout, but not purely legal document; however, not aimed at broader public
Thematic coverage	• Main activities focus on sectoral integration of biodiversity concerns, legislation, protected areas, species conservation, habitat and ecosystem conservation, biosafety, knowledge, and public awareness and education; • Special attention is paid to the two terrestrial ecosystems of agriculture and forests as well as inland waters, wetlands, marine and coastal ecosystems
Ties to existing (international) strategies, conventions and initiatives	• Ratification of CBD 1996 • Relevant other policies and programmes: • EU-level: Birds Directive; Habitats Directive • Regional: No specific programme or policy named • International: Ireland seeks to support the extension of ASCOBANS (Agreement on the Conservation of Small Cetaceans in the North and Baltic Seas)
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	2002, 49 pages
Key aspects	• Focus on biodiversity within Ireland; Stressing cross-sector cooperation; conservation primary goal • No section on reasons for conserving biodiversity and sustainable use; brief section on principles: each form of biodiversity is of value in its own right; biodiversity mentioned as essential for maintaining quality of human life • Only brief section on communication and public awareness; for public awareness, a clear top-down approach is taken; no clear outline of cross-sectoral implementation and responsibilities
Specific country characteristics	Extended coastline and large expanse of territorial waters have contributed to its extraordinary maritime and marine diversity
Structure	• Framework of the plan covers 15 themes and sectors • Final (significantly shorter) third chapter deals with implementation, monitoring and future plans

IRELAND

WHO – ACTORS AND ALLIANCES	
Addresser(s)	• Department of Arts, Heritage, Gaeltacht and the Islands • (Gaeltacht is Gaelic describing a region where Irish Gaelic is spoken as native language)
Addressee(s)	Primary Stakeholders: Inter-Departmental Steering Group on Biodiversity (no specific participating sectors or ministries listed); Department of Agrculture, Food and Rural Development; Department of Marine and Natural Resources Secondary Stakeholders: NGOs
LINKS	
Primary sources	National Biodiversity Strategy (2002) http://www.cbd.int/countries/profile.shtml?country=ie

ITALY

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation (Italian) • 1st Generation (English) • National Biodiversity Strategy and Preliminary Programme • Language not aimed at broad public;
Thematic coverage	Objectives of the strategy grouped into nine work areas: • Knowledge of biodiversity • Monitoring state of biodiversity • Education and training • In-situ conservation • Promotion of sustainable activities • Containment of risk factors • Ex-situ conservation • Biotechnology transfer and safety • International cooperation and eco-diplomacy
Ties to existing (international) strategies, conventions and initiatives	• Ratification of CBD 1994 • Relevant other policies and programmes: • EU-level: Habitats Directive; Water Framework Directive • International: CITES; UNFCCC; BONN CONVENTION

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 1st Generation (English) 1994, 31 pages • 2nd Generation (Italian) 2010, 204 pages
Key aspects	• Premium put on biodiversity within Italy • Italy interprets CBD as focussing on decision-making process at the national level • No mention of reasons for protecting biodiversity nor of ethical and philosophical dimensions • Participation: by now numerous biodiversity projects aiming at protecting biodiversity and using it sustainably while generating employment for the local population. → Strategy itself has narrow definition of participation

ITALY

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• One of the richest countries in Europe and the Mediterranean basin in terms of species biodiversity • Within Europe Italy has highest number of plants as well as terrestrial and freshwater animals • At the time of this study, Italy was especially focusing on the elaboration, by 2010, of a national strategy for biodiversity through a participative process with national and local institutions, as well as other stakeholders from the private sector and civil society
Structure	• Written in English and Italian within same document • Outlining CBD guidelines; subsequently nine work areas are defined
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment, Nature Conservation Service
Addressee(s)	Primary Stakeholders: Interministerial Committee for the Economy Planning Secondary Stakeholders: Research centres for monitoring; research centres attached to the Ministry of Coordination of Agriculture, Forest and Food Policies; NGOs (for education and training); local and regional bodies
LINKS	
Primary sources	National Biodiversity Strategy (1994) http://www.cbd.int/doc/world/it/it-nbsap-01-en.pdf

LATVIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • National Programme on Biological Diversity (1999) • Not aimed at broad public, but not purely legal document either
Thematic coverage	• Wide range of themes and sectors including the Baltic Sea and the Gulf of Riga as an important theme • Sustainable use is applied to the sectors of forestry, agriculture, fishery, game management, tourism, building construction, energy production, transport, urban environment, mining, peat mining, national defence
Ties to existing (international) strategies, conventions and initiatives	• Ratification of CBD 1995 • Relevant other policies and programmes: • EU-level: Habitats Habitats Directive; Pan-European Biological and Landscape Diversity Strategy • Regional: Environmental Protection Committee of the Baltic Council of Ministers; cooperation projects with Estonia and Lithuania • International: Wetlands (Ramsar) convention; CITES; BONN CONVENTION
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 1999, 61 pages
Key aspects	• Clear focus on biodiversity within Latvia but also importance of Baltic cooperation highlighted • Biodiversity viewed as essential for human survival; role of nature in influencing Latvian cultural heritage as well as ethical and aesthetic perceptions; no explicit list of reasons for protecting biodiversity • Nature protection only possible with the involvement of municipal governmental institutions, interest groups, non-governmental organisations, and businesses: consultative councils encompassing various stakeholders have been formed for protected territories

LATVIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• High coastal biodiversity currently threatened by economic pressure for economic and housing developments in coastal regions; peat harvest also threat to biodiversity • Inefficient Soviet land use allowed preservation of the natural forests, meadows and swamps where rich animal and plant populations are located; however, huge industrial centres remain zones of environmental problems; more than one third of the population lives in heavily industrialized Riga
Structure	• Strategy divided into three sections: nature protection, sustainable use and available policy instruments; • No separate Action Plan outlined

WHO – ACTORS AND ALLIANCES	
Addresser(s)	No single addresser or group of addressers is named explicitly: UNDP and GEF provided financial and organisational aid and facilitated workshops in which more than 100 representatives from ministries, scientific institutions, NGOs and other experts cooperated
Addressee(s)	Primary Stakeholders: Cabinet of Ministers; Inter-Ministry commission on sustainable development; GEF; UNDP Secondary Stakeholders: Ministry of Environmental Protection and Regional Development; NGOs; municipal departments
LINKS	
Primary sources	National Programme on Biological Diversity (1999) http://www.vidm.gov.lv/eng/dokumenti/politikas_planosanas_dokumenti/?doc=3304
Secondary sources	Keilbach, Patricia (2006): Governance or Government? Explaining Pathways to Nature Protection in New EU Member States. http://www.ceeisaconf.ut.ee/orb.aw/class=file/action=preview/id=169191/Keilbach.pdf

LITHUANIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • Biodiversity Conservation - Strategy and Action Plan (1996) • Extremely technical outline; not aimed at broader public
Thematic coverage	• Document divided into four main chapters: current status and trends, Strategy, Action Plan and implementation of Action Plan • Strategy section contains 31 goals divided into six levels of conservation: geosystematic, ecosystematic, species, genetic insitu, genetic ex-situ and organizational
Ties to existing strategies	• CBD ratification 1996 • Relevant other policies and programmes: • EU-level: Bern Convention • Regional: Convention on Fisheries in the Baltic Sea; Baltic Sea Marine Environment Convention • International: UNFCCC; Wetlands (Ramsar) convention
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	1996, 126 pages
Key aspects	• Clear focus on biodiversity conservation within Lithuania • Loss of species portrayed as loss of opportunities for humans; no other reasons for protecting biodiversity mentioned; ethics only mentioned briefly in the introduction • Goal to invite municipal groups to participation so that at the same time communication between various social groups and NGOs could increase; municipal institutions responsible for raising awareness
Specific country characteristics	• From 1960-1999, Lithuania went from being the Baltic state with the smallest area of protected land to being the state with the largest area • Protection of marine and coastal biodiversity is the most problematic issue as these ecosystems are threatened by economic developments, housing and tourism pressure • Other obstacle: resistance of private landowners to an increase in protection sites. Lithuania's strategy of only designating state-owned land for protection was eventually declared inefficient by the European Commission

LITHUANIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Structure	• Document contains a very comprehensive overview of the current status and trends of biodiversity in Lithuania, followed by a strategy section containing 31 goals divided into 6 levels of conservation (geosystematic, ecosystematic, species, genetic in-situ, genetic ex-situ and organizational) • Third part: specific Action Plans for forests, coasts and inland aquatic habitats as well as financial and political prerequisites
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Environmental Protection Ministry: Financial aid for pilot Action Plan from the World Bank
Addressee(s)	Primary Stakeholders: Environmental Protection Ministry; Scientific entities; Ministry of Agriculture, Ministry of Forestry; NGOs; experts from International Development Ireland (IDI) (see Introduction 1.0) Secondary Stakeholders: Ministry of Construction and Urban Development; Ministry of Education and Science; Municipal bodies
LINKS	
Primary sources	National Biodiversity Strategy and Action Plan (2001) www.cbd.int/doc/world/lt/lt-nbsap-01-en.pdf
Secondary sources	Keilbach, Patricia (2006): Governance or Government? Explaining Pathways to Nature Protection in New EU Member States. www.ceeisaconf.ut.ee/orb.aw/class=file/action=preview/id=169191/Keilbach.pdf

NETHERLANDS

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation • Biodiversity Policy Programme 2008-2011 "Biodiversity works – for nature, for people, forever" • This document is designed as an eye-catcher and clearly aimed at a broader public • Additionally, the fourth national CBD report of the Netherlands was published in 2010
Thematic coverage	• Most attention is paid to: trade chains and biodiversity (the Dutch international footprint) and ecosystem services; • Concerning biodiversity within the Netherlands, ecological (transeuropean) networks and marine biodiversity and fishery chains are prioritized
Ties to existing strategies	• Dutch strategy generally internationally oriented • CBD ratified in 1994 • Relevant other policies and programmes: • EU-level: Habitats Directive; Birds Directive • Regional: Pan European Ecological Network (PEEN) in cooperation with Germany and Belgium • International: CITES; BONN CONVENTION; World Heritage Convention; wetlands (Ramsar) convention; International Whaling Commission (IWC)
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	2009, 66 pages
Key aspects	• Dutch strategy exhibits clear international focus: in opening chapter, responsibility for tropical rainforests is mentioned first; prominent initiatives within the Netherlands mostly linked to transnational endeavours (PEEN) • Strategy calls for protection of biodiversity because it is "beautiful, useful and necessary"; moreover, a strong emphasis is put on intergenerational justice • Strategy sees Dutch lifestyle and modes of production as directly responsible for biodiversity loss elsewhere; Biodiversity viewed in the light of globalisation and uneven development • Civil society is invited to participate, especially the economic sector
Specific country characteristics	27% of species are to some extent threatened by extinction on the national level; particular pressure of European fisheries on the stock

NETHERLANDS

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Structure	• Document does not include Dutch Action Plan but EC's Action Plan and its relation to Dutch priorities is outlined in the appendix • A third of the policy programme is dedicated to outlining the context and giving a background on biodiversity in times of globalisation; Reasons for conserving biodiversity (especially abroad) are also dealt with in great detail • The remaining two thirds outline the priorities for the period 2008-2011, the management mechanism and evaluation and monitoring
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of Foreign Affairs mentioned first at the list of accountable actors since it is overseeing important international programmes such as the programme for "preserving biodiversity and the sustainable use of natural resources"
Addressee(s)	Primary Stakeholders: Minister of Agriculture, Nature and Food Quality; Minister for Development Cooperation; Minister of Housing, Spatial Planning and Environment Secondary Stakeholders: Minister of Economic Affairs; Minister of Education, Culture and Sciences; State Secretary for Transport, Public Works and Water Management; State Secretary for Defence Dutch government invites cooperation between ministries on one hand and between ministries and other stakeholders such as other public authorities, companies and NGOs on the other; the responsibility of companies and the need for public-private cooperation is repeatedly stressed
LINKS	
Primary sources	Biodiversity Policy Programme 2008-2011 http://www.cbd.int/doc/world/nl/nl-nbsap-v3-en.pdf
Secondary sources	Keijzers, G. (1999): The evolution of Dutch environmental policy: the changing ecological arena from 1970-2000 and beyond. http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B-6VFX-41BW73F-1&_user=4735862&_coverDate=06%2F30%2F2000&_rdoc=1&_fmt= high&_orig=search&_origin=search&_sort=d&_docanchor=&view=c&_searchStrId=1544575096&_rerunOrigin=scholar.google&_acct=C000064646&_version=1&_urlVersion=0&_userid=4735862&md5=48c404720e7331fd-68256f833f200c30&searchtype=a

NORWAY

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• No formal NBSAP • Norway's current Biodiversity strategy is incorporated into the report to the Storting (general assembly, Norway's Parliament) No. 26 (2006-2007): "The Government's Environmental Policy and the State of the Environment in Norway" • Reports to the Storting are white papers on environmental policy
Thematic coverage	• While the reports to the Storting deal with the government's environmental policy as a whole, priority has been given to implementation of measures to halt biodiversity loss by 2010 at both national and international levels • Chapter 3 of the report is dedicated to conservation and sustainable use of biodiversity, halting the loss of biodiversity is named as first key priority for Norway's environmental policy
Ties to existing strategies	• CBD ratified in 1993 • Relevant other policies and programmes: • No specific agreements named, only policy goals • Norway is currently working at streamlining its conservation policy with the EU system as regards the establishment of protected areas (Natura 2000 network) • Regional: Environmental protection in the arctic region: cooperation with Russia • International: Norway seeks to strengthen environmental and sustainability concerns in international organisations such as UNDP, FAO and the World Bank
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	2008, 35 pages
Key aspects	• Strategy exhibits dual approach: focus on both biodiversity in Norway and abroad • No explicit mention of ethics, but inter- and intragenerational justice are repeatedly referred to (see 1.1) • Norway favours upgrading of UNEP in order to address global problems such as climate change and biodiversity more efficiently • Biodiversity legislation reviewing committee is analyzing challenges related to indigenous (Sami) and local communities • Most serious threats to biodiversity in Norway are considered to be the conversion of agricultural land for other purposes

NORWAY

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Norway is not a member of the European Union but tied to some of its policies by various agreements and its membership in the European Free Trade Association • Norway's formerly abundant wilderness areas are disappearing at drastic speed due to developments such as forestry tracks, power lines, hydropower development, building of holiday cabins, etc. • Norway is home to indigenous people, the Sami
Structure	• Incorporated into the environmental report to the Storting (white papers) which deals with all environmental policies → No separate biodiversity strategy; • Considered in conjunction with Norway's strategy for sustainable development
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Norwegian Ministry of the Environment
Addressee(s)	Primary Stakeholders: Ministry of the Environment; Storting (parliament) Secondary Stakeholders: Norwegian government; Norwegian Association of Local and Regional Authorities, Norwegian Coastal Administration; Statskog (a state-owned enterprise responsible for the management of state- owned forest and mountain land) for outdoor recreation
LINKS	
Primary sources	Report to the Storting No.26 (2008) http://www.cbd.int/doc/world/no/no-nbsap-v3-en.pdf National Website – Environmental reports to the Storting (last reviewed 11-19-2010) http://www.regjeringen.no/en/dep/md/documents-and-publications/Government-propositions-and-reports-/Reports-to-the-Storting-white-papers-2.html?id=701

POLAND

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation • National Biodiversity Strategy: "The National Strategy for the Conservation and Sustainable Use of Biological Diversity" • From the outlook the strategy is not designed for professionals exclusively while at the same time some background knowledge is necessary to understand and appreciate the strategy
Thematic coverage	Eight strategic goals: recognition and monitoring of status of biological diversity and existing or potential threats; elimination of current and potential threats to biodiversity; preservation and/or enhancement of existing elements of biodiversity; integration of actions for biodiversity conservation with emphasis on those of importance in the sectors of economy, public administration and society in general; enhancement of knowledge of the public; improvement of mechanisms and instruments; expansion of international cooperation; fair and equitable sharing
Ties to existing strategies	• Ratification of CBD 1996 • Relevant other policies and programmes : • EU-level: Implementing Natura 2000 in Poland is medium-term aim of the strategy • Regional: Carpathian Convention; Marine Convention of the Baltic Sea • International: World Heritage Convention; wetlands (Ramsar) Convention; Washington Convention
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 2nd Generation: 2007, 33 pages • 1st Generation (including Action Programme): 2003, 59 pages
Key aspects	• Focus on biodiversity within Poland • Process of decentralisation: by transferring power to smaller entities it is possible for locals to participate at their place of residence; notably, sustainable use is set synonymously with rational use; literally: "moral premises for nature conservation have been supplemented by a more utilitarian approach entailing the conservation of biodiversity such that sustainable use might be made of it both now and in the future" • Sustainability thus not viewed as an issue of ethics • "Biological rather than anthropomorphic or sentimental premises have to been taken into account". But later it is stated that ethnic and cultural importance of a species should also be regarded

POLAND

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Poland's biodiversity features among the richest in Europe • 32,5 % of the country's territory are covered by national parks, nature reserves, protected landscapes and landscape parks • Contrary to other Central European transition countries, land was never fully nationalized in Poland, leading to thriving local small-market mechanisms which now prove favourable for multi-actor interactions in the sustainable use and conservation of biodiversity • Regional public initiatives are more and more involved in the protection of natural and cultural values
Structure	• With the 2nd Generation Strategy, Strategy and Action Plan (2007-2013) constitute two different documents; • The 1st Generation Strategy is presented in two parts: The first part comprises the strategy itself, the second part outlines the Action Programme for the years 2003-2006
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment
Addressee(s)	Primary Stakeholders: Ministry of the Environment; Council of Ministers Secondary Stakeholders: Agricultural agencies; various associations like the Polish Hunting Union; research agencies; numerous Ministries are also involved (Economy, Defense, Infrastructure, Education) → Ministry of Foreign Affairs and Development Cooperation not named
LINKS	
Primary sources	National Biodiversity Strategy (2003) http://www.cbd.int/doc/world/pl/pl-nbsap-01-en.pdf
Secondary sources	Kluvánková-Oravská, T. et al (2009): From Government to Governance for Biodiversity. The Perspective of Central and Eastern European Transition Countries. http://onlinelibrary.wiley.com/doi/10.1002/eet.508/abstract

ROMANIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation (since it was updated in 2000) • Approximation Strategy for the Nature Conservation Sector • Elaborated in 1999, updated in July 2000 • Text written from a legal viewpoint, not aimed at public
Thematic coverage	• Strategy names 9 priority objectives and numerous major activities linked to these objectives • Main challenges for Romania remain the development of a legislative framework and implementing pilot projects for certain areas • Some activities such as raising public awareness and consulting non-governmental actors are only just beginning
Ties to existing strategies	• CBD ratified in 1994 • Relevant other policies and programmes: • EU-level: Strong focus on establishing concordance with European law; Birds Directive; Habitats Directive • International: World Heritage Convention; CITES; Bonn Convention
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• 2nd Generation: 2007, 33 pages • 1st Generation (including Action Programme): 2003, 59 pages
Key aspects	• The Approximation Strategy puts a clear focus on conserving biodiversity within Romania: underlying reasons of conserving biodiversity are not mentioned, only the historical abstract could be interpreted in this manner: Citing Romanian history: tradition of protecting environment – ancient Romanian laws from the XIV century • State is identified as sole actor responsible for biodiversity: no specific programs are developed for the involvement of local communities in the decision-making process, but procedures for public consultation are planned

ROMANIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Most biogeographically diverse country in Europe: a special challenge is posed by the restitution of forests to families of former landowners (pertains to 50% of forest land) • Political history: under the communist dictatorship a "free for all" pattern of land and forest use evolved • In current biodiversity policies, the island-approach of designating several small unconnected protection-sites is dominant and will be accelerated by further privatisations • Romania further challenged by its insufficient legal framework and regulatory capacity for the preparation of a national strategy compliant with EU standards
Structure	• Three chapters: legislation and institutional framework for conservation; concordance between European Union and Romanian legislation; objectives and actions on the approximation strategy • The chapters outlining national and international legislations are quite extensive (citing laws dating back to the 1970s) whereas the section concerned with implementing objectives takes up minor space • Different time-frame options for certain goals exist

WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of Waters, Forests and Environmental Protection, Directorate of Nature and Biological Diversity Conservation (MWFEP)
Addressee(s)	Primary Stakeholders: Ministry of Waters, Forests and Environmental Protection, Directorate of Nature and Biological Diversity Conservation Secondary Stakeholders: National companies under MWFEP order; scientific research entities under MWFEP order; the MWFEP operates in a top-down manner and has too little capacity for real devolution

LINKS	
Primary sources	Approximation Strategy for the Nature Conservation Sector (2000) http://www.cbd.int/doc/world/ro/ro-nbsap-v2-en.pdf
Secondary sources	Ioras, F. (2001): Trends in Romanian biodiversity conservation policy. http://www.cbd.int/doc/world/ro/ro-nbsap-v2-en.pdf

SLOVAKIA

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • National Biodiversity Strategy • Focus on legal aspects • Probably not aimed at broad public but rather international expert audience as it is written in English and Slovakian
Thematic coverage	24 goals, including the identification of the status of biological diversity components, managing threatening processes, strengthening of in-situ biodiversity conservation and promoting ecologically sound and sustainable tourism concepts
Ties to existing strategies	• CBD party since 1994 (by approval) • Relevant other policies and programmes: None specifically mentioned

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	1997, 117 pages
Key aspects	• Clearly focuses on biodiversity within Slovakia; sustainable tourism is featured as form of sustainable use • No reasons for protection of biodiversity are given • Activities were developed through the Rural Development Programme aimed at the preservation of original rural architecture and traditional management of land • NGOs participate, also in designing the strategy; All citizens are required to preserve and protect the environment
Specific country characteristics	• Slovakia is sometimes overburdened by the complex European biodiversity governance regime; for example, in the high Tatras national park, competences are divided ambiguously between the Agricultural Ministry and the Ministry of the Environment; • During the last 40 years, many species-rich meadows have been turned into intensively managed grasslands leading to biodiversity loss • Microregions in Slovakia support biodiversity governance: voluntary cooperation of municipalities located around national parks • Tourism is becoming more and more important as a revenue, thus the focus on sustainable tourism

SLOVAKIA

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Structure	• Document written in English and Slovakian: one column per page for each language • Three main sections: Strategy focuses on legislation; different habitat types and the related challenges and opportunities; strategic goals • No Action Plan included and strategic goals section is rather brief
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment
Addressee(s)	Primary Stakeholders: Ministry of the Environment; National Council of the Slovak Republic Secondary Stakeholders: Ministry of Agriculture (research on genetic resources, monitoring); Ministry of Health (monitoring); Slovak Hunter's Union; Slovak Fishing Union
LINKS	
Primary sources	National Biodiversity Strategy (1997) http://www.cbd.int/countries/profile.shtml?country=sk
Secondary sources	Kluvánková-Oravská, T. et al (2009): From Government to Governance for Biodiversity. The Perspective of Central and Eastern European Transition Countries. http://onlinelibrary.wiley.com/doi/10.1002/eet.508/abstract

SPAIN

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 1st Generation • National Biodiversity Strategy: "National Strategy for the Conservation and Sustainable Use of Biodiversity" • Strategy is divided into two separate parts, Part 1: Breakdown of the Current Situation. Part 2: Regional Strategies, Sector Plans, Guidelines and Measures; • From the outlook the strategy is not designed for professionals exclusively while at the same time some background knowledge is necessary to understand the strategy
Thematic coverage	• Part 1(Framework): social instruments, scientific instruments, economic instruments, institutional and legal instruments • Part 2 (Measures): ex situ and in situ conservation, species and habitat conservation, wetlands, marine environment, modified living organisms
Ties to existing strategies	• Ratification of CBD 1993 • Relevant other policies and programmes: • EU-level: Natura 2000; Birds Directive; Natura 2000 • International: CITES; UNCCD
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• National Strategy 1999, Part 1: 78 pages • National Strategy 1999, Part 2: 79 pages
Key aspects	• Focus on Spain but also some international cooperations, notably with indigenous communities; • No reference is made to ethics, intragenerational and intergenerational justice are only mentioned implicitly • Spanish strategy bears the aspect of "sustainable use" in the title; conservation of biological diversity is seen as shared responsibility of humanity; government is aware that traditional knowledge is lost more and more and that public needs to be included into planning and exercising biodiversity policies • Strong emphasis on valuation of traditional knowledge: cooperation with Ministry of Foreign Affairs in working with indigenous communities worldwide

SPAIN

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Specific country characteristics	• Biological diversity in Spain one of highest in Europe: 50% of priority habitat types (identified by the EU habitats directive) present in Spain • At the same time numerous factors challenging biodiversity: intense human activity, erosion, introduction of invasive species, extreme natural events, over-exploitation of species of economic interest, desertification, soil degradation, forest fires and climate change • Public awareness is quite low and social instruments to promote CBD must be further developed – the government recognizes this
Structure	• Spain also possesses a number of regional strategies as some regions are quite strong within Spain's federalism: national strategy is regarded as logical bridge between European and regional strategies • Regional and sectoral strategies are therefore outlined in more detail in the strategy's second part • Part 1 is thus in accordance with European strategy while at the same time acting as framework for regional strategies
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Ministry of the Environment,Secretary General for the Environment, General Directorate for Nature Conservation
Addressee(s)	Primary Stakeholders: Ministry of the Environment,Secretary General for the Environment, General Directorate for Nature Conservation; governments of autonomous regions; coordination of regions: future National Nature Protection Commission; Ministry of Foreign Affairs: for cooperation with indigenous communities abroad Secondary Stakeholders: Consultations with affected local communities; facilitating network on biodiversity issues; NGOs (namely: Ecologistas en Acción, Greenpeace Spain, WWF Spain)
LINKS	
Primary sources	National Strategy Part 1 (1999) http://www.cbd.int/doc/world/es/es-nbsap-01-p1-en.pdf National Strategy Part 2 (1999) http://www.cbd.int/doc/world/es/es-nbsap-01-p1-en.pdf

UNITED KINGDOM

WHAT – DOCUMENT TYPE & TIES	
Document type (legal status and/or formal characteristics)	• 2nd Generation (BAP 1994, then Strategic Framework 2007) • "Conserving Biodiversity – the UK approach" • Shared vision of the strategic framework for UK Biodiversity conservation adopted by evolved administrations and UK government, building on UK Biodiversity Action Plan (BAP) • Both texts also aim at a broader public
Thematic coverage	Protecting best wildlife sites; priority species and habitats; embedding biodiversity and ecosystems in all relevant sectors; engaging people, encouraging behaviour change; proactive role in multilateral agreements
Ties to existing strategies	• UK first country to have own strategy after CBD • Strategy nested in CBD and EU framework • Relevant other policies and programmes: • EU-level: Birds Directive; Habitats Directive
HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Formal characteristics	• Strategic Framework: 2007, 19 pages • BAP: 1994, 188 pages
Key aspects	• Strategic Framework clearly focuses on biodiversity within the UK • Special chapter (3) for "guiding principles" → reasons for conserving biodiversity. 1. survival depends on it 2. lifestyle and economy depend on it 3. to do otherwise is wrong 4. because it inspires and enriches lives • While first two points are elaborated extensively, latter points are one-liners • A participative approach and the inclusion of NGOs and volunteers play a big role
Specific country characteristics	• Political devolution in the UK from 1998 onwards has led to the emergence of country strategies based on the 1994 BAP; • In the UK, conserving biodiversity has widespread support and much is achieved by volunteers

UNITED KINGDOM

HOW - SECTORS, STRUCTURES & SPECIAL FOCUS	
Structure	• "Conserving Biodiversity – the UK approach" is the main integrating document between thematic and regional strategies and action plans • Three types of action plans in the UK: local action plans, species action plans and habitats action plans • UK strategic framework consists of separate strategies for England, Wales, Scotland and Northern Ireland
WHO – ACTORS AND ALLIANCES	
Addresser(s)	Department for Environment, Food and Rural Affairs
Addressee(s)	Primary Stakeholders: Department for Environment, Food and Rural Affairs ; Strategy implemented in devolved administrations of England, Wales, Scotland and Northern Ireland, here in turn different sectoral ministries responsible of Strategy Framework Secondary Stakeholders: Inclusion of volunteers and broader partnerships: Local BAP mechanism facilitating cooperation of volunteers, local authorities and NGOs
LINKS	
Primary sources	Biodiversity Action Plan (1994) http://www.cbd.int/doc/world/gb/gb-nbsap-01-en.pdf Strategic Framework (2007) http://www.ukbap.org.uk/library/UKSC/DEF-PB12772-ConBio-UK.pdf
Secondary sources	Ellis, R. & Waterton, C. (2004): Environmental Citizenship in the making: the participation of volunteer naturalists in UK biological recording and biodiversity policy. http://eprints.lancs.ac.uk/33745/1/SPP.pdf Ledoux, L. et al (200): Implementing EU biodiversity policy: UK experiences. http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B-6VB0-41J692K-1&_user=4735862&_coverDate=10%2F31%2F2000&_rdoc=1&_fmt=high&_orig=search&_origin=search&_sort=d&_docanchor=&view=c&_searchStrId=1542788494&_rerunOrigin=google&_acct=C000064646&_version=1&_urlVersion=0&_userid=4735862&md5=8ddcb8b7c0a9a57aa703d-78fdb3eb1f9&searchtype=a Fairbrass, J. (2000): EU and British biodiversity policy: ambiguity and error of judgement. http://www.uea.ac.uk/env/cserge/pub/wp/gec/gec_2000_04.pdf

GLOSSARY

This glossary clarifies the meaning of terms used in this report. Explanations for terms in italic type are cited from other sources: Either the biodiversity and communications glossaries provided in the CEPA toolkit (Hesselink et al.: 284, 294 and 300) or the glossary of the German biodiversity strategy (GNBS). The numbers in the right column refer to the chapter/s or paragraph/s in which the respective topic is covered in more detail.

Access and Benefit Sharing (ABS)	The "fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies" is one of the three objectives of the Convention on Biological Diversity. The 'Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization' to the Convention on Biological Diversity is an international agreement which aims at reaching this objective. It was adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting on 29 October 2010 in Nagoya, Japan.	**4.3.2 7.2.1**
Acceptability	Unlike acceptance research that is concerned with empirical behaviour of addresses, ethical analysis evaluates the principled acceptability of an argument for any rational person. Acceptability depends on the theoretical quality of an → **argument** rather than on its practical success.	**1.3.2**
Advertising	*"Those forms of PR and marketing communication aimed at the influencing and /or promoting purchasing behaviour with regard to the services and products of the organisation. Successful advertising is based on principles such as 'perception is the only reality', 'one picture is more powerful than a thousand words', 'emotion is what triggers action'. Advertising tools range from billboards and TV spots to direct mail." (Hesselink et al. 2007: 294)*	**1.3.1**
Aesthetic value	In contrast to a common use, "aesthetic value" is not to be equated with "beauty". Aesthetic contemplation is a particular mode of experiencing nature. The aesthetic experience is not guided by any instrumental interest but is meaningful in itself. Hence, aesthetic value is an intrinsic value, though it does not equal àmoral intrinsic value.	**4.4.4**
Anthropocentrism	The term refers to the foundations of environmental ethics. In contrast to → **physiocentrism**, anthropocentrism holds that moral norms with regard to the natural environment can only be justified with reference to human needs, desires, interests or emotions. Within the anthropocentric framework, only humans are considered to have → **moral intrinsic value**.	**1.1.4**

Argument	An argument aims at convincing someone by giving reasons. The ethical quest for good arguments is concerned with the adequacy of an argument, not with its (potential) practical success. It asks for the principled → **acceptability** of an argument for any rational person. Coherence and consistence are rational criteria of a good argument.	**1.3.2**
Basic needs	Basic needs are those with the highest priority in a hierarchy of human needs. Depending on the definition they include essential goods such as food, drinking water and shelter.	**4.3.2** **7.7.2** **8.1.1**
Biodiversity	Short for biological diversity. "Biodiversity (…) means the diversity of life in all its forms - the diversity of species, of genetic variations within one species, and of ecosystems" (Hesselink et al. 2007: 284). The concept itself is not merely scientific but was coined at the boundary between science and politics. It is therefore interpreted as a boundary concept.	**1.2**
Brundtland-Report	The United Nations World Commission on Environment and Development (WCED) was named after its chairperson Gro Harlem Brundtland. Its final report "Our common future" was released in 1987. It provides the most common definition of → **Sustainable Development.**	**1.2.2**
Capabilities approach	A paradigm for human development that focuses what individuals are able to do. It is based on substantive freedoms people value and have reason to value. "Being able to live with concern for and in relation to animals, plants, and the world of nature" is regarded as one such capability (Martha Nussbaum).	**4.4.6**
Club of Rome	Global think tank dedicated to the future of humanity and the planet. It was founded in 1968. Its 1972 report "The Limits to Growth" had significant impact on the beginning of the environmental movement.	
Communication	*"Communication is an activity in which a sender transmits a message, with or without the aid of media and vehicles, to one or more receivers, and vice versa. The way in which communication takes place is referred to as the communication process. The ideal form of communication is a two way process aimed at mutual understanding, sharing of values and action." (Hesselink et al. 2007: 294)*	

Convention on Biological Diversity (CBD)	The Convention on Biological Diversity was an outcome of the 1992 United Nations Conference on Environment and Development (àUNCED). Its three equally important objectives are the conservation of biodiversity, its sustainable use and the fair and equitable sharing of the benefits derived from the use of genetic resources.	
Convergence hypothesis	Pragmatist argument by Bryan Norton that emphasises the practical convergence of → **anthropocentric** and → **physiocentric** arguments. When it comes to practical management decisions, the well-being of humans and the well-being of non-human species need not necessarily to be opposed but can be promoted by the same policies	**1.1.5**
Distributive justice	Regards the question how goods are allocated in society. Distributive norms specify the criteria according to which the fairness of a distribution is judged. With regard to biological diversity distributive justice refers to the benefits as well as to the costs of biodiversity conservation (→ **environmental justice**)	
Ecosystem services	Umbrella term for the multiple benefits people obtain from ecosystems. The → **Millennium Ecosystem Assessment** discriminates between supporting, provisioning, regulating, and cultural services.	**3** **6.1**
Environmental Ethics	Ethics with regard to environmental issues. "Environmental" denotes a field of application, not a programme of justification of ethics.	**1.1.3**
Environmental Justice	The concept links social and environmental issues by raising awareness for the inequitable distribution of environmental burdens and benefits.	**4.3.3**
Ethics	A reflexive theory of morality aiming at a rational justification of what is to be regarded as good or bad, right or wrong. In contrast to a common usage, 'ethics' does not denote a particular moral mindset, but a branch of practical philosophy.	**1.1**
Eudemonic value	Eudemonia is a central concept in Aristotelian ethics that denotes a morally relevant ideal of human flourishing. Objects or activities that are constituents of human flourishing have eudemonic intrinsic value. Arguments of the → **Good Life** refer to the eudemonic value.	**6.3.2**
Good Life	In this report: Category for those arguments that refer to the non-instrumental value of biodiversity. → **Eudemonic value**	**4.4**

Holism	Holistic arguments seek to overcome the dualistic opposition of humans and nature. They emphasise the dependence of human well-being on the well-being of the whole of nature. In contrast to an → **inclusive approach** to environmental ethics, holism refuses anthropocentrism and denies a moral priority of people.	**8.2**
Human rights	The inalienable fundamental rights of each and every human being as acknowledged in the United Nations Declaration of Human Rights (Paris 1948). Arguments of → **intragenerational justice** basically refer to human rights.	**4.3.2** **7.2.2**
Inclusive approach	To overcome the exclusive terminology of the anthropocentrism vs. physiocentrism debate, the inclusive approach emphasises the irreducible relatedness of humans and nature. Instead of focusing either humans or nature it centres the quality of their relationship. However, by restricting moral intrinsic value to humans, it remains grounded on → **anthropocentrism**.	**1.1** **1.1.5**
Indigenous people	*"People whose ancestors inhabited a place or country when persons from another culture or ethnic background arrived on the scene and dominated them through conquest, settlement, or other means and who today live more in conformity with their own social, economic, and cultural customs and traditions than with those of the country of which they now form a part" (Hesselink et al. 2007: 288).*	
Instrumental value	The term 'instrumental' denotes a relation between means and end. An entity has instrumental value if it has value for someone in order to achieve something else. However, the term is a potential source of misunderstanding, because what is regarded as being 'instrumental' depends on different schools of thought.	**6.3**
Intrinsic value	While → **instrumental value** denotes the value for something different, intrinsic value means 'value in itself'. The attribution of an intrinsic value means, that someone values something for what it is in itself. Note well that not every intrinsic value means → **moral intrinsic value** (→ **Aesthetic value, eudemonic value**). In contrast to instrumental value, intrinsic value refers to those particular objects that are not substitutable by functional equivalents.	**1.1** **4.4** **6.3** **8**
Intuition	Those moral believes that people have previous to or independent from critical reflection. Moral intuitions are a source of ethical considerations. Remaining discrepancies between ethical arguments and moral intuitions give reason to further reflection.	**4.4**

Justice	In this report: Category for those arguments that involve reference to moral rights and duties.	**4.3**
Justice, ecological	Refers to the moral rights of and moral duties to the natural world	**4.3.5**
Justice, intergenerational	Refers to the moral rights of and our moral duties to future generations.	**4.3.4**
Justice, intragenerational	Refers to the moral rights of and/or moral duties to all people living today (→ **human rights**)	**4.3.3** **4.3.2**
Millenium Ecosystem Assessment (MA)	*"An international work program designed to meet the needs of decision makers and the public for scientific information concerning the consequences of ecosystem change for human well-being and options for responding to those changes. The MA was launched by U.N. Secretary-General Kofi Annan in June 2001 and it will help to meet assessment needs of the Convention on Biological Diversity, Convention to Combat Desertification, the Ramsar Convention on Wetlands, and the Convention on Migratory Species, as well as needs of other users in the private sector and civil society. If the MA proves to be useful to its stakeholders, it is anticipated that an assessment process modeled on the MA will be repeated every 5–10 years and that ecosystem assessments will be regularly conducted at national or sub-national scales."* *(Hesselink et al. 2007: 289)*	
Moral community	Members of the moral community are all entities that bear moral rights. Direct moral obligations exist only towards those who bear moral rights, while indirect duties are derived from the moral rights of others. The question which entities should be included into the moral community is regarded known as the "inclusion problem": Are all persons, all humans, all sentient beings, all living creatures, or all ecological systems members of the moral community? The question if rights of non-human members of the moral community may or can be traded off against the rights of humans is among the most contested in environmental ethics.	**1.1.4** **4.3.5**
Moral intrinsic value	In contrast to → **eudemonic intrinsic value**, moral intrinsic value is not a relational concept. It is acknowledged to those entities that are regarded as ends in themselves. The attribution of moral intrinsic value founds the moral relevance of an entity irrespective of this entity's meaning to another entity. It entails the approval of moral rights and the inclusion into the → **moral community**	**1.1.4** **4.3.5**

Morality	In contrast to ethics as an academic endeavour, morality describes the whole of actually existing moral convictions and practices.	**1.1**
National Biodiversity Strategy and Action Plan (NBSAP)	*"The Convention on Biological Diversity calls on each of its Parties to prepare a National Biodiversity Strategy and Action Plan (Article 6a) that establishes specific activities and targets for achieving the objectives of the Convention. These plans mostly are implemented by a partnership of conservation organisations." (Hesselink et al: 289)*	**5**
Non-Governmental Organisation (NGO)	*"A nonprofit group or association organised outside of institutionalised political structures to realise particular social objectives (such as environmental protection) or serve particular constituencies (such as indigenous peoples). NGO activities range from research, information distribution, training, local organisation, and community service to legal advocacy, lobbying for legislative change, and civil disobedience. NGOs range in size from small groups within a particular community to huge membership groups with a national or international scope." (Hesselink et al. 2007: 290)*	
Participation	Involvement of all people concerned into the decision-making processes. Central element of procedural justice. Comprehensive participation not only may result in greater acceptance of biodiversity policies, but also enhances their → **acceptability**.	**1.3** **5.5.4**
Physiocentrism	In contrast to → **anthropocentrism**, physiocentrism constitutes intrinsic moral value of non-human nature by naming morally relevant qualities irrespective of affiliation to the human species: the ability to suffer (pathocentrism), the property of being alive (biocentrism), or the ecological interconnectedness (ecocentrism).	**1.1.4** **4.3.5**
Polluter-pays principle	*"Principle of environmental policy whereby the costs associated with the avoidance, rectification or compensation of environmental pollution must be paid by the polluter, and are therefore included in his cost accounting". (NBS).*	**7.2.1**
Precautionary principle	*"Principle of environmental policy which states that government measures should be implemented in such a way that all environmental risks, as far as possible, are avoided from the outset" (NBS).*	**1.1.2**
Prudence	In this report: Category for those arguments that seek to justify the conservation and sustainable use of biodiversity with its instrumental value for society and economy.	**4.2**

Rio-Declaration	The "Declaration on Environment and Development" represents the basic document of the United Nations Agenda for the 21st Century. It consists of 27 principles for a → **Sustainable Development. Principle** one puts human beings at the centre of concern.	**1.1.3**
Stakeholders	*"Stakeholders are those people or organisations which are vital to the success or failure of an organization or project to reach its goals. The primary stakeholders are (a.) those needed for permission, approval and financial support and (b.) those who are directly affected by the activities of the organization or project. Secondary stakeholders are those who are indirectly affected. Tertiary stakeholders are those who are not affected or involved, but who can influence opinions either for or against." (Hesselink et al. 2007: 299)*	
Sustainable Development	The concept of sustainable development integrates environmental and developmental concerns. According to the → **Brundtland Report**, "Sustainable Development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs". From an ethical perspective, the needs of the present are related to → **intragenerational justice** while the needs of future generations refer to → **intergenerational justice**.	
Sustainable use	*"The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations." (Hesselink et al. 2007: 292)*	
UNFCCC	Like the CBD, the United Nations Framework Convention on Climate Change is an outcome of the United Nations Conference on Environment and Development in Rio de Janeiro in 1992. The objective of the treaty is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". It includes measures of climate change adaptation as well as measures of climate change mitigation.	

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