Quality of Life, Wellbeing and Biodiversity

The role of biodiversity in future development

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Executive Summary

Biodiversity provides different material benefits or "services" to humans, such as clean air, food, medicinal plants, and firewood. However, biodiversity also provides non-material benefits. For example, nature is a space where the urban population likes to spend their free time or do sports, especially in developed countries.

In local or indigenous communities in the global South, biodiversity and nature are often central to people's culture, religion or identity. Nature's key role in people's worldviews is often related to it constituting an integral part of people's livelihoods and thus their material wellbeing. Other people – including in the industrialized world – feel a deep spiritual or religious relationship with nature as a whole and assign it an inherent value, even if they do not gain their livelihoods directly from it.

Despite its material and non-material value to humankind, biodiversity and nature are increasingly under threat. Habitat loss and degradation, exacerbated by projected climate change, currently pose the most significant threats globally.

This study looks at how different narratives on biodiversity and its value are represented in international development cooperation. The starting hypothesis is that the ecosystem service concept and economic valuation of biodiversity currently form the dominant narrative on biodiversity in international development cooperation. The narrative predominantly highlights the utilitarian value of biodiversity to humans, as expressed in monetary terms. It thereby ties in with a discourse in which economic development and growth (as measured by indicators such as GDP or GNI per capita) are considered essential components of development.

On this basis, the main objective of this study is to highlight the importance of divergent views on biodiversity and their significance for human wellbeing. These insights are to contribute to the discussion among decision-makers and practitioners on whether current development cooperation policies and programs sufficiently reflect different perceptions of biodiversity and wellbeing.

The study adopted a range of approaches to gather a well-rounded perspective on the topics being explored. First, a substantial part of the study was conducted as desk research and the analysis of relevant documents and policies. Telephone interviews were also held with representatives of German development and nature conservation organizations to complement this information.

Two expert workshops were organized in Addis Ababa, Ethiopia and Quito, Ecuador in June 2014 to discuss the distribution of different perceptions on biodiversity and nature and how this effects the implementation of biodiversity policy in the respective countries and the work in cooperation projects.

An additional desk-based case study was carried out, which explicitly highlighted the differences in perceptions and discourses on biodiversity and development between Bhutan and Nepal. The resultant study is attached as a separate document to this report.

A final expert workshop was held in Berlin, Germany in July 2014 to discuss and reflect on the preliminary findings of the study. Results from all events and interviews were synthesized in the study.

Some of the key results are synthesized below:

In international policies (chapter 2), the prevailing narrative regarding the relationship between biodiversity and

wellbeing seems to be focused on ecosystem services and the "pay to conserve" principle. The non-economic values of biodiversity and their function in ensuring livelihoods also play an important, but somewhat less significant role. There are, however, important examples which recognize these other approaches. For example, the IBPES references various understandings of nature and acknowledges a variety of knowledge systems. A rights-based approach – as demanded by some indigenous organizations – is being discussed, but has not yet been established in the major multilateral environmental agreements. Positions by states that have a more reserved position towards ecosystem services and the valorization of nature, such as Bolivia, do not appear to be very influential in international negotiations.

In the categorization of narratives (chapter 3) a distinction is made between narratives emphasizing the instrumental or utilitarian values of nature and those highlighting its non-instrumental or even intrinsic value. Utilitarian narratives largely draw on an ecosystem services perspective, which tends to correspond to an economization of language in practice (e.g. "natural capital"). On the other hand, non-utilitarian narratives refer to nature's non-material worth; in this perspective, nature is understood as being inherently imbued with cultural, spiritual, religious or identity-based values.

More specifically, the identified biodiversity narratives are divided between utilitarian and non-utilitarian narratives, consisting of:

- Utilitarian: ecosystem services; livelihoods; and work and income
- Non-utilitarian: religious/spiritual/ cultural values; identity; and intrinsic value.

In reality, individual and collective perspectives on nature and biodiversity will generally be a combination of both utilitarian and non-utilitarian narratives. The relative weight given to different narratives may vary according to factors such as one's cultural background, economic activity and nationality.

Alternative concepts of development (chapter 4) seem to be more compatible with narratives on the value of biodiversity and its relationship with human wellbeing than the predominant economic perspective represented by the ecosystem service concept. For example, supporters of the degrowth concept are often explicitly critical of ecosystem service approaches and the valuation of nature. In *BuenVivir* as well as - to a certain extent - the capabilities approach, the non-economic value of nature and biodiversity for human wellbeing is highlighted. Therefore, it is likely that strengthening alternative narratives on biodiversity in development cooperation will require development cooperation to embrace other, multidimensional understandings of development.

A further key finding of the study is that the actual consideration of non-utilitarian narratives of biodiversity only starts - if it takes place at all - at the regional or local levels. From interviews and workshop discussions, it became clear that in cooperation projects and day to day activities of development work with communities and individuals, a broad understanding of biodiversity, wellbeing and development is acknowledged. To the extent possible, these understandings are also considered in the implementation of projects. However, coherency between international and national approaches and policies and regional/local level implementation often does not work well.

The study concludes with a set of recommendations on how the protection of biodiversity can be more effectively integrated in development cooperation. Most importantly, cooperation and communication strategies should acknowledge and make

use of the wide range of biodiversity narratives and their relations to human wellbeing, depending on the cultural and regional context of the target groups. A restricted focus only on the ecosystem service concept might lead to confusion and misunderstandings among various groups, sectors and policy levels. Furthermore, a narrow perspective bears the risk that people's attitudes and perceptions will transition towards a mere economic and perspective on nature, which could arguably jeopardize long-term biodiversity protection aims.

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1 Introduction

While perhaps appearing quite different, a subsistence farmer in Mexico harvesting traditional corn varieties from their maize field to produce the customary *tortilla* and a hiker enjoying a German forest have something in common - they both utilize biodiversity and biodiversity contributes to their wellbeing. The farmer depends on agricultural biodiversity, which farmers and breeders across the world have developed over centuries. The hiker enjoys the immaterial benefits of biodiversity, using the forest for recreational purposes. These examples illustrate that biodiversity is valued differently by individuals in distinctive contexts and contributes to people's wellbeing in a variety of ways.

Biodiversity provides diverse benefits for humans, including those of a material and non-material nature. Material benefits or "services" for humans include, for example, clean air, food, medicinal plants, or firewood. Furthermore, biodiversity conservation is a field of work that provides jobs for many individuals, such as managing protected areas or working in the eco-tourism industry. Non-material benefits provided by biodiversity can be understood by, for example, thinking of nature as a space where the urban population enjoys spending its free time or engaging in recreational activities, especially in developed countries. Yet the immaterial values attributed to biodiversity extend far beyond this aspect, particularly for local or indigenous communities in the global South. In these populations, biodiversity or nature is often central to one's culture, religion or identity. Nature's central place in people's worldviews often stems from the fact that nature and biodiversity constitute a key part of one's livelihoods and thus their material wellbeing. Other people – including in the industrialized world – can feel a deep spiritual or religious relationship with nature as a whole and assign an inherent value to it, even if they are not directly dependent on it for their livelihoods.

Despite its material and non-material value to humans and society at large, biodiversity is increasingly under threat. Habitat loss and degradation - exacerbated by projected climate change - currently pose the most significant threats to global biodiversity.[1] While land conversion has historically been predominantly driven by local needs for food, fibre and fuel, international trade and globalization have become dominant drivers in recent decades. Approximately 30% of today's global threats to species are a result of international trade, driven by ever-growing consumer demand in developed regions (such as by the EU) for products from developing countries.[2]

Widespread declines in both terrestrial and aquatic biodiversity have also largely been driven by over-exploitation and unsustainable use. Deforestation, overfishing, meat consumption and increasing demands for biomass for a variety of purposes (e.g. food, feed, energy and industrial crops) are particularly relevant examples of humans exploiting natural systems to their tipping points, beyond which the ability to recovery is jeopardized.

[1] Dennis et al., "Corridors and Barriers in Biodiversity Conservation: A Novel Resource-Based Habitat Perspective for Butterflies."

[2] Lenzen et al., "International Trade Drives Biodiversity Threats in Developing Nations."

The ongoing loss of biodiversity has spurred efforts to reduce and ultimately halt biodiversity loss at all political levels. Development cooperation has an important role to play in this regard as many "hotspots" of global biodiversity (i.e. areas with particularly high levels of biodiversity) are located in developing countries. Many development projects explicitly seek to implement international policy frameworks aiming at biodiversity conservation, such as the Aichi targets set under the Convention on Biological Diversity (CBD). In developing countries, biodiversity plays a larger role in generating income and contributing to people's livelihoods than in developed countries. Thus, development cooperation is faced with the challenge of simultaneously contributing to the conservation of biodiversity and to development objectives such as poverty reduction.

The German Federal Ministry for Economic Cooperation and Development (BMZ) emphasizes the importance of biodiversity for development cooperation, highlighting the dependence of human livelihoods and life itself in both industrialized and developing countries on intact ecosystems and the environmental services they provide.[3] Therefore, the conservation of biodiversity is regarded as both a priority area and a cross-cutting issue that needs to be mainstreamed within development cooperation and across a range of additional policy fields. Guiding principles for cooperation in this field are set by the Strategic Plan (2011 to 2020) of the CBD.[4]

Over the last two decades, new approaches to biodiversity conservation have been developed which build on the idea that biodiversity delivers material benefits that can and should be quantified in monetary terms. Currently, technical terms like "ecosystem services" or "habitat banking" prevail in strategic discussions and policies that aim to halt global biodiversity loss. The idea behind such technical terms is that once the monetary value of biodiversity is established and made visible, people will pay for the use and enjoyment of biodiversity; therewith, the likelihood of it being destroyed will be reduced and funds will become available for conservation efforts.

However, as illustrated with several examples, the value of biodiversity is not limited to material benefits for many people. Instead, nature is viewed as having an intrinsic value or as being a part of individuals' identities. Local or indigenous communities may oppose assigning a monetary value to e.g. a sacred mountain or a forest grove. In fact, some developing countries – including e.g. Bolivia and Ecuador - have adopted an official discourse that is critical of "monetization" or "commodification" of nature. Such "alternative" perspectives on nature and biodiversity are often neglected in current discourses about conservation, especially at the policy level.

1.1 Aim and focus of the study

This study explores how different narratives on biodiversity and its value are represented in international and development cooperation. The starting hypothesis is that the ecosystem

[3] See http://www.bmz.de/en/what_we_do/issues/Environment/biodiversitaet/arbeitsfelder/index.html

[4] BMZ (Federal Ministry for Economic Cooperation and Development) and BMUB (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety), *Committed to Biodiversity*.

services concept and economic valuation of biodiversity currently form the dominant narrative on biodiversity. This narrative predominantly highlights the utilitarian value of biodiversity to humans, as expressed in monetary terms, and thereby ties in with a discourse in which economic development and growth (as measured by indicators such as GDP or GNI per capita) are considered to be essential components of development.

An additional assumption is that cultural, spiritual and other non-utilitarian values of biodiversity are insufficiently considered in development policies and cooperation. The study seeks to establish whether this focus leads to approaches that do not fully address strategic potentials with respect to effective biodiversity protection, or if it creates any other conflicts within these fields. Finally, it is proposed that alternative discourses of development which link biodiversity and human wellbeing are conceptualized in a broader and more integrated way and could therefore serve to stimulate a stronger consideration of non-utilitarian values of biodiversity. Such consideration could ultimately foster the long-term effectiveness of biodiversity conservation projects and initiatives.

The main objective of this study is to highlight the importance of divergent views on biodiversity and their significance for human wellbeing and to contribute to a discussion amongst decision-makers and practitioners about whether current development cooperation policies and programs sufficiently reflect different perceptions of biodiversity and wellbeing. More specifically, the study seeks to:

- Summarize different narratives on the relationship between biodiversity and human wellbeing, as well as the value of biodiversity;
- Investigate the influence and uptake of different narratives of biodiversity in programmatic policy at the international level and in development cooperation approaches/projects;
- Present understandings of “development” that do not focus on economic growth as an important driver of economic development, but on other parameters, making them more compatible with a non-economic understanding of biodiversity; and
- Derive trends and recommendations for development policy and international cooperation.

1.2 Brief clarification of terms

Biodiversity (or “ biological diversity”) is a concept of biology referring to the richness of the living world. Commonly, the term biodiversity is associated with the number of species (i.e. **species richness)** and includes all animals, plants and microorganisms. Species richness can be counted for a community, park, country, or even for the entire biosphere. However, biodiversity is more than just species richness, as diversity occurs on different scales. The concept therefore also includes a range of other factors, such as the global variety of genetic information (genetic diversity), the number of species occurring in an ecological community and the variety of habitat types in a certain landscape.

This widely used approach of defining biodiversity on different scales is also applied in the CBD, defining biological diversity as “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."[5] The term **ecosystem** describes the smallest unit of a living system, i.e. a "dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit".[6]

In contrast to the rather descriptive nature of biodiversity, "**biological resources**" are a more utilitarian concept. The CBD defines these as "genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity."

The terms **wellbeing**, **happiness**, **quality of life**, **satisfaction** and **welfare** are more challenging to define as no single consensus exists regarding an accepted definition, or even regarding the added-value of developing such definitions.[7] The terms are frequently used to describe one another, resulting in somewhat circular lines of argumentation. As these terms are highly normative, difficulties lie in trying to establish a set understanding of what determines a good quality of life and what makes people happy; furthermore, the words people use to describe these feelings often depend on an individual's cultural, personal, situational and lingual contexts. Dodge et al. (2012) conclude that dimensions and descriptions of wellbeing have been useful tools to drive previous research in this field, focusing on "narratives" rather than the provision of distinct definitions; this approach is also applied in this study for biodiversity and nature (see below).

In some documents, wellbeing is described as the perception of a person's quality of life; in other contexts, the terms wellbeing and quality of life are used interchangeably. Happiness can be described as the degree to which a person positively evaluates the overall quality of his/her own life. The literature principally agrees that wellbeing implies an overall satisfaction with life (includes a positive personal judgment and "feeling good" in general); high wellbeing indicates that positive emotions like happiness are present and negative emotions are largely absent. In this study, the aim is not to solve this problem of understanding and provide a substantial definition of the presented terms; the concepts of wellbeing and quality of life are therefore used interchangeably and applied using the view of the World Health Organization (WHO): "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".[8]

Another important term used frequently in this study is '**narrative'**; as with some of the prior terms, there is no single definition for this concept as it is used in many fields and contexts. The term derives from the Latin word *narrare*, meaning ‚to tell'. It is originally used in literature, describing a story or account of events or experiences (both true and fictitious). This study utilizes the term for the purpose of categorizing different understandings and meanings of biodiversity/nature and their link to wellbeing, which are identified and elaborated in chapter 3. Individuals and collectives in different regions of the world and with distinct cultural backgrounds might have divergent perceptions about biodiversity and nature.

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[5] CBD, Article 2, Use of Terms (http://www.cbd.int/convention/articles/default.shtml?a=cbd-02)

[6] CBD, Glossary of terms (http://www.cbd.int/invasive/terms.shtml)

[7] For a discussion about different attempts to define wellbeing, see for ex. Dodge et al., "The Challenge of Defining Wellbeing."

[8] WHO - World Health Organisation, "WHOQOL - Measuring Quality of Life."

The term “narrative” is thus seen as being suitable for application given the aims and approach of the study. Further explanations about the background and utilization of the term in different disciplines can be found in chapter 3.

1.3 Methodological approach and structure of the study

This study was primarily conducted as desk research and involved the analysis of relevant documents and policies. Telephone interviews were also held with five representatives of German development and nature conservation organizations[9] to complement this information, focusing on the following points:

1. How the relevance of biodiversity is communicated to partners and the public and which additional understandings of biodiversity’s importance arise in the work of the respective interviewee;
2. Connections between biodiversity and wellbeing and the role these relationships play in development cooperation;
3. Areas in which communication on biodiversity can be improved;
4. Difficulties encountered in advising partners on the implementation of the Strategic Plan of the CBD in partner countries due to diverging understandings of biodiversity; and
5. Important aspects to take into account in future development/biodiversity politics and elements that should be included in the design of the post-2015 agenda.

Subsequently, two workshops entitled "*Biodiversity and development - different biodiversity narratives and their implications for international cooperation*" were held in Addis Ababa, Ethiopia and Quito, Ecuador in June 2014. Approximately 20 participants attended each workshop, including experts and stakeholders active in the fields of development, biodiversity and nature conservation. Preliminary research findings were presented and discussions focused on how different perceptions of nature and biodiversity can potentially lead to diverging conservation and management strategies, and thereby affect development cooperation at the national and local levels. On the basis of interactive sessions, the workshop produced recommendations for optimizing the consideration of alternative perspectives and views on biodiversity within development policy and international cooperation.

In addition to the workshops in Africa and Latin America, a desk-based case study was conducted on an Asian example, which explicitly highlighted the differences in perceptions and discourses on biodiversity and development between Bhutan and Nepal.

A further workshop entitled *“Sacred Site, Ecosystem or Investment Opportunity - What role do different conceptions of nature and biodiversity play in international cooperation?”* was held in Berlin, Germany in July 2014. Approximately 20 experts from the fields of research and science as well as representatives of NGOs, community-based organizations (CBOs),

[9] Interviewees represented the GIZ, BMZ, and German Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN).

embassies, conservation agencies and development organizations participated. In the first part of the workshop, different narratives regarding biodiversity were presented and discussed as well as resultant challenges for development cooperation identified. On this basis, the second part of the workshop involved working groups to agree on policy recommendations for decision-makers and development organizations that can lead to more effective integration of biodiversity protection in development cooperation. In addition, preliminary findings of the study and recommendations were presented to development practitioners during a seminar on *Biodiversity Conservation for Human Wellbeing* in August 2014 in Vilm, Germany. The participants' comments were taken into account.

Thus, the results and insights presented in the study have been compiled using a mixture of desk-based research and discussions with experts. While this approach is useful for identifying prevailing narratives on biodiversity and different concepts of development, a limitation is the limited empirical research that was conducted on the practice of development cooperation. For example, the authors did not systematically assess project documentation or conduct formal interviews with project coordinators engaged in biodiversity conservation or people in local communities who might have a different view on a project's outcome and/or degree of success.

Moreover, given that in some developing countries biodiversity is higher on the political agenda than in others and that narratives on biodiversity also differ between individuals and cultures, many findings are not necessarily transferable from one local context to another. As a result, the focus of this study lies on policies and strategic programming in development cooperation rather than on the implementation of development projects. Finally, it should be noted that establishing a rigorous methodology for identifying concepts or narratives of biodiversity in global discourses is challenging and likely requires more time and examination. In many instances, the present study thus had to rely on anecdotal evidence, expert judgments and plausible argumentation.

The report is structured as follows:

In chapter 2, the approaches to linking biodiversity and wellbeing in different international policies and political fora are outlined. Examples are taken from the area of international environmental politics as well as from the development field. This overview shows that an understanding of biodiversity emphasizing the economic, monetary value of biodiversity for human wellbeing is the dominant, but not the only perspective.

Chapter 3 identifies different narratives on biodiversity. The main distinction is between utilitarian narratives (stressing the material value of biodiversity for human beings as a main rationale for conservation) and non-utilitarian understandings that highlight the non-material values of biodiversity.

In chapter 4, what is assumed to be a mainstream understanding of development is outlined, focusing on the important role played by economic growth and the material use of natural resources. This understanding is contrasted with alternative concepts that are considered to be more open to non-economic understandings of biodiversity.

Chapter 5 is dedicated to summarizing the study's findings, focusing on which narratives of biodiversity currently prevail in development policies. Based on literature and the authors' own findings, the chapter also sheds light on the impacts of market-based instruments of biodiversity on communities in developing countries. Finally, the study concludes with reflection on the starting hypothesis (see chapter 1.1) and by

providing some general recommendations on how biodiversity can be more effectively integrated into development cooperation.

2 Biodiversity and wellbeing in selected international policies

Development cooperation is strongly influenced by international policies. In fact, many development projects explicitly aim for the implementation of international policy frameworks or goals (such as the CBD Aichi targets or the Millennium Development Goals) at the national or sub-national levels. Often, several of these frameworks have to be considered in development cooperation at the same time, implying that trade-offs among different goals need to be recognized and addressed. While development projects are largely inter-sectoral in nature, policies and policy targets are predominantly established from a more sectoral perspective. Key terms like “nature” or “biodiversity” might be defined and understood in different ways in different sectors. There may also be different biodiversity-related objectives, sometimes leading to actions that only contribute to one of the objectives. To give an example, growing Eucalyptus plantations on agricultural land might be good for carbon sequestration and hence for climate mitigation. On the other hand, monocultures do not enhance biodiversity and might correspond with limited access to land for local communities.

This chapter provides a general overview on some of the most relevant policies and policy processes at the international level that exist at the nexus between biodiversity (conservation) and development. The concentration lies on relevant UN conventions as well as the Rio +20 process (chapter 2.1) and a few additional UN processes in which debates on biodiversity and wellbeing currently play a significant role – both directly and indirectly (chapter 2.2). This list of policies is by no means exhaustive, but should rather provide an overview and comparison between a selected number of policies that are deemed relevant for the development sector.

Certain narratives on biodiversity and wellbeing are strengthened through the participation of actors embracing the respective narratives in these fora. For example, an active involvement of indigenous organizations in international policy processes may lead to a stronger consideration of non-economic values of biodiversity, while the involvement of business actors might lead to focusing explicitly on the economic perspective. Thus, each of the subsequent policy sections is structured along the following lines:

1. A general characterization of the policy
2. A description of the role of biodiversity for human wellbeing as understood in the respective policy area
3. A critical outline of the mechanisms for the participation of civil society actors, in particular local and indigenous communities

2.1 International Conventions and the Rio+20 Process

2.1.1 The UN Convention on Biological Diversity (CBD), with a particular focus on the Nagoya Protocol

General characterization

Adopted in 1992, the United Nations Convention on Biological Diversity (CBD) is one of the three UN Rio conventions. Sustainable use of biological diversity and its components as well as the prevention of ecosystems degradation are the core objectives of the Convention. Article 2 of the CBD defines biological diversity as "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".

A major outcome at the tenth conference of the parties (COP10) in 2010 was a new Strategic Plan (which serves as the overarching framework on biodiversity) with a global goal of preventing the further loss of biodiversity by 2020 and a "resource mobilization strategy" that identifies the need for a significant increase in biodiversity conservation funding.

In 2002, the CBD Parties set out to significantly reduce the rate of biodiversity loss by 2010, but failed to meet their target. Accordingly, the Strategic Plan for Biodiversity 2011-2020 was created to more fully integrate issues of sustainable use with wider ecosystem protection. Most of the new Aichi Biodiversity Targets[10] are set for 2020, while some aim for 2015 and are complimented by a vision for 2050. The targets are grouped under five strategic goals, which are to:

1. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society;
2. Reduce the direct pressures on biodiversity and promote sustainable use;
3. Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity;
4. Enhance the benefits to all from biodiversity and ecosystem services; and
5. Enhance implementation through participatory planning, knowledge management and capacity building.

The Parties to the Convention are required to transpose the Aichi Biodiversity targets in relevant national strategies. Regional and sub-regional capacity-building workshops are organized to strengthen national capacities for the development, reviewing, communication, implementation, and updating of National Biodiversity Strategies and Action Plans. National reports, in contrast, are meant to inform the CBD of national measures taken to implement the Convention and their effectiveness and progress. The national implementation takes place on the competent geographical or governance level in the specific national context. However, the CBD supports decentralization at the lowest possible level promoting integrated land, water, and living resources management based on the acknowledgement

[10] Named after the region of Aichi (Japan), of which Nagoya is the capital

that humans, as well as their culture and use of resources, are an integral part of ecosystems.

After six years of negotiations, 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"* (Nagoya Protocol) was adopted at the tenth conference of the parties (COP10) in 2010.[11] The Nagoya Protocol serves to implement one of the three objectives of the CBD, namely the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. At the most recent COP 12 in Pyeongchang (Republic of Korea) at the time of writing, the Protocol had not yet entered into force.

The Nagoya Protocol spells out in more detail the obligations contained in the CBD that the prior informed consent (PIC) of provider countries of genetic resources is required before genetic resources on their territory and associated traditional knowledge are used; moreover, the Protocol contains an obligation for the Protocol's parties to ensure that the benefits arising out of the utilization of such resources are shared fairly and equitably with the provider country on mutually agreed terms. Such benefits could be monetary (e.g. the profits from marketing a product based on a certain genetic resource) or non-monetary (e.g. scientific information gained). There is a long list of different types of benefits that could be shared with providers in the Annex to the Protocol.

Integration of biodiversity and its role for human wellbeing

The CBD strongly focuses on the ecosystem services narrative, albeit applying it in a more holistic fashion and giving significant weight to *all* ecosystem service categories - including cultural services. The intrinsic values and traditional belief systems associated with nature and biodiversity are also acknowledged, particularly regarding indigenous populations. More explicitly, the Convention text explicitly mentions the "intrinsic value of biological diversity and of the biological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components" within its Preamble and throughout the document.[12]

With respect to supporting human wellbeing in the context of biodiversity, the Strategic Plan for Biodiversity 2011-2020 calls for the prevention of further biodiversity loss to ensure ongoing contributions to human wellbeing. Similarly, Aichi Biodiversity Target 14 draws a link between human wellbeing and ecosystems, stating: "By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities and the poor and vulnerable". The Convention text further acknowledges the "traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources" and stresses the "desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices.[13]

[11] This protocol is one of two adopted by the convention. The first protocol is on biosafety (entitled: The Cartagena Protocol) and was adopted in 2000.

[12] United Nations, *Convention on Biological Diversity*.

[13] Convention on Biological Diversity, *Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets: COP 10 Decision X/2*.

From an economic perspective, the Strategic Plan for Biodiversity 2011-2020 specifically outlines the further development of "economic aspects related to ecosystem services and biodiversity" as one of its aims. Within the plan, economic development is recognized as a priority and a necessity to achieving the Millennium Development Goals, particularly for poverty reduction.[14]

At the COP 12 in Pyeongchang the contribution of biodiversity to human wellbeing was specifically emphasized in the Gangwon-Declaration on Biodiversity for Sustainable Development.[15] More specifically, the Declaration called for a stronger link of the Strategic Plan for Biodiversity 2011-2020 and its Aichi Targets to the post-2015 development agenda by strengthening cooperation, coordination and synergies with biodiversity-related conventions and organizations.

Opportunities for stakeholder participation

The practice of the Convention and of its Cartagena Protocol is that stakeholders[16] are allowed to participate in the work of the COP and its subsidiary bodies. They are also admitted as observers in the Working Groups and as full participants in expert groups, liaison groups and informal advisory committees. A particular emphasis is on the full participation of women at all levels of implementation and policy-making in respect to biological diversity conservation. The development and use of various technologies within the framework of the Convention are also to include indigenous and traditional technologies.[17]

Furthermore, the participation of indigenous and local communities (ILCs) is recognized as being essential to achieving the CBD's goals, as outlined in Article 8(j), and built upon and operationalized in various guidelines and other documents[18]. Limited funding is made available to ILC representatives via the Voluntary Fund for participation in the meetings of the Ad Hoc Working Group on Traditional Knowledge, where ILC representatives are allowed to participate in meetings and in decision-making. However, criticism remains about the ineffective implementation of the various CBD articles on participation to date.[19] While the profile of these groups has increased, recognition exists of the need to "make explicit the importance of the full and effective participation of indigenous and local communities in the CBD process"[20]. There is also criticism concerning the failure to involve ILC representatives in developing the four-year framework for program priorities related to the utilization of

[14] Ibid.

[15] CBD COP 12, "Gangwon Declaration on Biodiversity for Sustainable Development."

[16] This includes international organizations, NGOs, indigenous and local community representatives and the private sector.

[17] Convention on Biological Diversity, *Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets: COP 10 Decision X/2*.

[18] E.g. Programme of Work on Protected Areas, the draft ethical code of conduct to ensure respect for the cultural and intellectual heritage of indigenous and local communities, and the Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity

[19] BirdLife International, "Working with Communities at Important Bird Areas: Seeking 'genuine Participation' as a Principle for Conservation and Development in Practice."

[20] United Nations, "Press Release: Biodiversity Meeting Affirms Key Role of Traditional Knowledge in Implementing UN Biodiversity Convention."

resources for the biodiversity focal area of the GEF.[21] Interestingly, the Climate Action Network (CAN) called on UNFCCC Parties (see chapter below) in 2009 to adopt the same conditions for indigenous participation as those in effect through the Convention on Biological Diversity, seeing the convention as a model for the effective inclusion of indigenous peoples.[22]

The Nagoya Protocol also contains obligations on the involvement of ILC´s in related decisions. Notably, parties to the Protocol are obliged to ensure that benefits arising from the utilization of traditional knowledge associated with genetic resources are shared in a fair and equitable way with communities holding such knowledge. There is also an (albeit somewhat softly formulated) obligation to ensure that prior informed consent on access is also obtained from the indigenous and local communities that hold certain rights in relation to these resources (e.g. because they are situated on their territory).

Thus, the Protocol is based on the assumption that biodiversity can and should be used for the benefits of society, but that these benefits should also reach those that have contributed to preserving biodiversity and hold associated knowledge. It is also based on the premise that biodiversity has an economic value; if components of biodiversity are used productively (e.g. for research and development), this will lead to more efforts at preserving it, including by generating the financial means for doing so, but could also contribute to poverty reduction. These ideas are reflected, for example, in some of the recitals of the Protocol's preamble:

> „Acknowledging the potential role of access and benefit-sharing to contribute to the conservation and sustainable use of biological diversity, poverty eradication and environmental sustainability and hereby contributing to achieving the Millennium Development Goals"
>
> "Recognizing that public awareness of the economic value of ecosystems and biodiversity and the fair and equitable sharing of this economic value with the custodians of biodiversity are key incentives for the conservation of biological diversity and the sustainable use of its components"

The CBD has sometimes been criticized for allocating the sovereignty over genetic resources to states and failing to effectively safeguard the rights of ILCs in this regard. It has been pointed out that the relationship between state authorities and indigenous communities is not always one of mutual trust and support; more often than not, indigenous communities are marginalized. Allocating the decision-making power over genetic resources and traditional knowledge to the state has against this background been described as severing the "all-important connection between community and biodiversity"[23].

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[21] Declaration of the International Indigenous Forum on Biodiversity (IIFB) at the inception of the Conference of the Parties (COP XI), the statement was read by the representative of the Asia, Gam A. Shimray the North-East of India AIPP organization.

[22] Climate Action Network International, *Views on Issues Relating to Indigenous Peoples and Local Communities for the Development and Application of Methodologies: Submission of the Climate Action Network International*.

[23] Konstantia Koutouk, The Nagoya Protocol: Status Of Indigenous And Local Communities, 2011, Center for International Sustainable Development Law, http://cisdl.org/public/docs/legal/The%20Nagoya%20Protocol%20-%20Status%20of%20Indiginous%20and%20Local%20Communities.pdf, p. 6

The Nagoya Protocol may be seen as remedying some of the overall shortcomings of the CBD in relation to its vague and often not implemented and enforced provisions on prior informed consent and benefit sharing; however, it does not adopt a fundamentally different approach concerning the role of indigenous and local communities than the CBD did. Some indigenous groups have therefore criticized the Protocol vehemently, stating, for example, that it "undermines the collective rights of Indigenous peoples"[24] as it contains only relatively weak formulation on indigenous rights. They also criticized that they were not included effectively in the negotiations of the Protocol and in fact excluded when compromises and final decisions were made.[25] A submission by more than 60 indigenous organizations to the UN Permanent Forum on Indigenous Issues points out what these organizations consider as substantive and procedural injustices of the Protocol, including that the term indigenous peoples is not used in the Protocol or that the provisions on indigenous participation in decision-making come with limitations and qualifications.[26] Indigenous groups tend to stress the importance of a rights-based approached, as for example contained in the (non-binding) 2007 UN Declaration on the Rights of Indigenous Peoples.

At a maybe even more fundamental level, the paradigm of biodiversity protection through a "valorization" of nature underlying the CBD and the Protocol is criticized as being insufficient to tackle biodiversity loss.[27] Critics argue that such a way of approaching biodiversity conservation is both the result of and contributing to too narrow of an understanding of the causes for biodiversity loss and a marginalization of alternative approaches.[28]

2.1.2 The UN Framework Convention on Climate Change (UNFCCC)

General characterization

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted at the 1992 "Rio Earth Summit" and entered into force on 21 March 1994. The Convention was

[24] Quebec Native Women Inc, Joint Statement of North American Indigenous Organizations on the Nagoya ABS Protocol of the Convention on Biological Diversity, Kahnawake – 14 December 2010, http://www.faq-qnw.org/old/documents/pressrelease-14dec.pdf

[25] Quebec Native Women Inc, Joint Statement of North American Indigenous Organizations on the Nagoya ABS Protocol of the Convention on Biological Diversity, Kahnawake – 14 December 2010, http://www.faq-qnw.org/old/documents/pressrelease-14dec.pdf

[26] Nagoya Protocol: Substantive & Procedural Injustices relating to Indigenous Peoples' Human Rights, Submission to the Permanent Forum on Indigenous Issues, Tenth session, New York, 16-27 May 2011 http://www.ubcic.bc.ca/News_Releases/UBCICNews05191102.html#axzz32MkSnoh7

[27] See for example Ulrich Brand and Alice B.M. Vadrot, 'Epistemic Selectivities and the Valorisation of Nature: The Cases of the Nagoya Protocol and the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES)', Law, Environment and Development Journal (2013), Vol. 9 No. 2, p. 202, http://www.lead-journal.org/content/13202.pdf

[28] See for example Ulrich Brand and Alice B.M. Vadrot, 'Epistemic Selectivities and the Valorisation of Nature: The Cases of the Nagoya Protocol and the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES)', Law, Environment and Development Journal (2013), Vol. 9 No. 2, p. 202, http://www.lead-journal.org/content/13202.pdf

established at a time when it was recognized that "the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases"[29]. Parties under the Convention aim to protect the climate system for present and future generations, utilize the precautionary approach, take into account the circumstances and needs of developing country Parties, promote and employ sustainable development, and cooperate in order to facilitate a positive international economic system leading to sustainable economic growth and allowing Parties to better attend to climate change problems.[30]

The most relevant component of the climate change regime, with direct implications for biodiversity is the **REDD+ mechanism**. In 2007, UNFCCC decision 1/CP.16 was adopted, which encourages developing countries to reduce emissions from conservation of forest carbon stocks, deforestation and forest degradation, enhancement of forest carbon stocks and sustainable management of forests (REDD). The maintenance of forest carbon stocks as well as reforestation and afforestation activities can have strong synergies with biodiversity conservation.

Three different phases for REDD+ implementation were outlined in the decision: (i) "the development of national strategies or action plans, policies and measures, and capacity-building"; (ii) "the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities"; (iii) "results-based actions that should be fully measured, reported and verified" (CBD 2011).[31]

Currently, funding for pilot REDD+ projects is available from the GEF through allocations to individual countries for activities in the areas of biodiversity, land degradation and climate change (CBD 2011).[32]

There are several uncertainties regarding how REDD+ could be implemented at the international and national levels (Angelsen et al. 2009). The specific design of REDD+ at the national level will define its ultimate impacts on the environment and land governance. Poorly designed and implemented REDD+ activities may have negative impacts on biodiversity and local communities. Risks include, for example, increased pressure on non-forest ecosystems with high biodiversity value in the surrounding of REDD+ sites, in particular when people are displaced (CBD 2011).[33] In particular, strong concerns have been raised concerning the risks that REDD+ can pose to indigenous peoples and local communities. It is feared that an asymmetric power distribution will enable powerful REDD+ consortia to deprive communities of their legitimate land-development aspirations, and culturally rooted not-for-profit conservation values may be eroded. If the programs are not carefully designed, they could marginalize the landless and those with informal and community-based land rights.[34] The

[29] http://unfccc.int/

[30] See UNFCCC Article 3, Principles.

[31] CBD, *REDD-plus and Biodiversity*.

[32] Ibid.

[33] Ibid.

[34] UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) Framework Document

Indigenous Environmental Network warns that "Indigenous Peoples and forest dwelling communities run the risk of being tricked into signing contracts that commodify their way of life, culture, children and all that is Sacred".[35]

Integration of biodiversity and its role for human wellbeing

Although climate change has a significant impact on biodiversity, the climate convention does not reference biodiversity or mention human wellbeing. Forests and ecosystems in general are referred to mainly in their function as carbon sinks, as the convention commits parties to promote sustainable development and the conservation and enhancement of sinks and reservoirs of all greenhouse gases, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems.[36] The same viewpoint can be found in the Kyoto Protocol, which states that parties must account for changes in carbon stocks caused by afforestation, deforestation and reforestation, and emissions from cropland management, forest management, re-vegetation and grazing land management are included in voluntary accounting.[37] The focus lies on the capacity of various ecosystems to store carbon, not on the value of the ecosystem regarding biodiversity.

In contrast, the REDD+ mechanism has a more direct link to biodiversity. The UN-REDD framework document states that the activities under the mechanism could enhance biodiversity and help sustain or improve livelihoods of local communities. However, as REDD+ is a payment for ecosystem services, it is subject to the same criticism of commodification of nature and the privatization of "trees, forests, life, culture and peoples".[38] As a reaction to these risks, a set of safeguards to REDD+ initiatives was delineated within the 'Cancun Agreements' in 2010. These safeguards also include the obligation to respect the knowledge and rights of indigenous peoples and members of local communities as well as a requirement that actions are consistent with the conservation of natural forests and biological diversity. But challenges still remain, relating especially to how these safeguards should be implemented on the ground and how adherence to them should be monitored.

Opportunities for stakeholder participation

Although UNFCCC meetings are not open to the general public, interested parties can observe the negotiations by completing an accreditation process.[39] Currently the UNFCCC has almost 1600 NGOs and 100 IGOs serving as observers. The NGOs demonstrate great diversity in interests and representation; among the most important groups represented are indigenous peoples, local governments, labour unions, and women's groups.[40]

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[35] Indigenous Environmental Network, "Cashing in on Creation: Gourmet REDD Privatises, Packages, Patents, Sells and Corrupts All That Is Sacred."

[36] UNFCCC, Art. 4.1 (d)

[37] Kyoto Protocol, Art. 3

[38] Indigenous Environmental Network, "Cashing in on Creation: Gourmet REDD Privatises, Packages, Patents, Sells and Corrupts All That Is Sacred."

[39] United Nations Framework Convention on Climate Change, "Frequently Asked Questions."

[40] United Nations Framework Convention on Climate Change, "Parties & Observers."

Since 2000, indigenous peoples have been engaged in the UNFCCC process. According to the International Work Group for Indigenous Affairs, indigenous rights issues are present in almost all areas of negotiation but most notably within REDD+ negotiations. Moreover, the International Indigenous Peoples' Forum on Climate Change (IIPFCC), a joint indigenous caucus in the UNFCCC process, provides access to indigenous activists who want to participate in negotiations as observers.[41] However, the indigenous community stresses that indigenous issues are really rights issues, continuing to argue that indigenous peoples need to become more involved in the UNFCCC process, particularly in regards to REDD+, to assure that all policies do not infringe on indigenous rights.[42]

2.1.3 The UN Convention to Combat Desertification (UNCCD)

General characterization

The United Nations Convention to Combat Desertification (UNCCD) entered into force in 1996. The Convention was developed due to the insufficiency of the 1977 UN Plan of Action to Combat Desertification to address the growing problems associated with desertification and drought. Over one billion people face threats from desertification and drought, most of who live in Africa. Given UNCCD's sustainable development focus and the strong linkages between climate change, desertification, drought and loss of biodiversity, the UNCCD has converging priorities and objectives with the UNFCCC and CBD (UNEP 2001).[43]

The UNCCD's main purpose, as described in Article 2, is to combat desertification and land degradation ''in countries experiencing serious drought and/or desertification [...]". It is the only legally-binding international instrument to combat desertification. Further objectives are the improvement of land productivity, and ''the rehabilitation, conservation and sustainable management of land and water resources". Thus, the Convention seeks to support governments' development of national policies to mitigate the effects of drought and land degradation. After it was noted in 2007 that "desertification trends show no signs of abatement and that there is a lack of strong achievements on the ground,"[44] a 10-year Strategy plan and framework ('The Strategy') was adopted to strengthen implementation of the Convention from 2008-2018.[45]

The UNCCD does not have its own financing mechanism. However, the UNCCD's COP is assisted by the Global Mechanism. The Global Mechanism is hosted by the International Fund for Agricultural Development (IFAD) and promotes the mobilization of funds to

[41] International Work Group for Indigenous Affairs, "UN Framework Convention on Climate Change, UNFCCC."

[42] Castro Diaz, "International Expert Group Meeting on Indigenous Peoples and Climate Change."

[43] *Multilateral Environmental Agreements: A Summary. Background Paper Presented by the Secretariat. UNEP/IGM/1/INF/1*.

[44] ICCD/COP(8)/16/Add.1 (2007). UNCCD Report of the Conference of the Parties on its eighth session, held in Madrid from 3 to 14 September 2007, Annex IV. ICCD/COP(8)/16

[45] Decision 3/COP.8 (2007). UNCCD Report of the Conference of the Parties on its eighth session, held in Madrid from 3 to 14 September 2007, 3/COP.8. ICCD/COP(8)/16/Add.1.

developing country Parties and increases the effectiveness of existing financing mechanisms.

Integration of biodiversity and its role for human wellbeing

The Convention text itself uses the term biodiversity and biological diversity several times. For example, National Action Plans (NAPs) in Latin America are required to enhance the "conservation and sustainable use of biodiversity in accordance with the provisions of the Convention on Biological Diversity"[46], and NAPs in Africa must include measures "ensuring integrated and sustainable management of natural resources, including biological diversity"[47].

The depletion of natural resources by land and ecosystem degradation is considered a major threat to people's livelihoods and a cause of impoverishment, migration, internal population movements, and deterioration of quality of life.[48] The UNCCD defines ''land'' by its primary productive service (‘‘'land' means the terrestrial bio-productive system'') and ''land degradation'' as an implicit loss of provision of this service ("'land degradation' means reduction or loss…of the biological or economic productivity") (UNEP 2006: 638).[49]

Emphasizing the inter-linkages between biodiversity, land and soil productivity, and human wellbeing, the Convention seeks to raise awareness on dryland biodiversity and its value, including species diversity, habitat and ecosystems, and also take action to offset land degradation through the effective conservation and restoration of dryland biodiversity (Davies et al. 2012).[50] Accordingly, the UNCCD Secretariat introduced the goal to achieve a *land degradation neutral world* at the Rio+20 Summit in 2012, which should be pursued through implementation and promotion of sustainable land management practices worldwide (UN 2012).[51]

Opportunities for stakeholder participation

The UNCCD's decision-making body is, as in the other conventions, the Conference of the Parties, which is comprised of the Parties and meets every two years to review implementation of the Convention. Other actors formally involved in the policy development process are regional, national and local governments, as well as local and community stakeholders.

Several articles[52] of the UNCCD's text encourage a people-centered approach towards combating desertification. More specifically, the UNCCD intends to apply a bottom-up approach, reflecting the Convention's spirit of participatory development.[53]

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[46] UNCCD (1994): United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification. Final text of the Convention. Art, 4, Annex III

[47] UNCCD (1994): Art. 8, Annex I

[48] UNCCD (1994): Art. 2, Annex III

[49] Millennium Ecosystem Assessment, *Ecosystems and Human Wellbeing: Current State and Trends, Volume 1* Chapter 22 Dryland Systems.

[50] Davies et al., *Conserving Dryland Biodiversity*.

[51] United Nations, "Report of the United Nations Conference on Sustainable Development."

[52] UNCCD (1994): Art. 5, 9, 10 and 13

Nevertheless, the UNCCD does not define exactly what is meant by 'participation'. Stringer et. al (2007) analyzed to what extent and in what format participation is taking place in the design and development of NAPs by using case studies from southern Africa. In general, they highlight that vertical linkages and communication between national government and lower-level institutions (NGOs, CBOs, scientists) are extremely important, as signatories are bound by their obligations to the international community to report regularly to the UNCCD on their efforts to combat desertification and implement the UNCCD.

However, meaningful participation by local communities and NGOs in the design and development of NAPs can be hampered by several factors, including: dominant top-down policy structures, a lack of institutional structures to represent the interests of stakeholders typically affected by and/or affecting desertification, a lack of political interest to involve the communities, inadequate capacity amongst stakeholders, inadequate consultation at the village level, inadequate research information on desertification and drought issues, lack of financial resources to engage interested stakeholders, and most of all a weakness or absence of national legislation and institutional structures. Stringer et al (2007: 198) conclude that the "UNCCD represents a useful normative framework for addressing degradation problems, but that the participatory ethos is difficult to enact at the national level."

2.2 Other relevant UN processes

2.2.1 The UN process towards Sustainable Development Goals (SDGs)

General characterization

The outcome document of the 2010 MDG Summit requested the UN Secretary General to initiate process which reflects on the global development agenda beyond 2015. In addition, the 2012 Rio+20 UN conference on Sustainable Development initiated a process to develop a set of Sustainable Development Goals (SDGs). There is broad agreement in global political discourse that these two processes should merge into a global development agenda beyond 2015 with sustainable development as the core principle. The SDGs should address the shortcomings of the MDGs by better integrating environmental sustainability concerns into development policy, reflecting a criticism that the MDGs were not adequately doing so.[54] The SDGs are also to create an agenda applicable to developed and developing countries.[55] The SDGs are not legally binding but aspired goals;[56] the goals and their indicators should serve as guideposts for the development of sustainable development policy at all levels while taking into account national circumstances and capacities.[57]

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[53] UNCCD, *Participatory Development: A Bottom-up Approach to Combating Desertification*.

[54] Loewe, "Post 2015: How to Reconcile the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs)?"

[55] Sachs, "From Millennium Development Goals to Sustainable Development Goals."

[56] Open Working Group on Sustainable Development Goals, "Progress Report of the Open Working Group of the General Assembly on Sustainable Development Goals," 6.

[57] Open Working Group on Sustainable Development Goals, "Progress Report of the Open Working Group of the General Assembly on Sustainable Development Goals."

The Rio+20 outcome document *The Future We Want* mandated the creation of an intergovernmental Open Working Group (OWG) to develop a set of SDGs for consideration by the UN General Assembly. An inter-agency technical support team (TST) supported the OWG with analytical input and background material. In order to facilitate an inclusive global conversation, consultations were initiated at the regional, national and global level. Major groups and stakeholders could contribute to the process through thematic clusters, which were coordinated by steering committees responsible for preparing joint position papers for consideration of the OWG.

The first phase of the process ran from early 2013 to February 2014 and consisted of consultations on thematic issues and deliberating on how results can be integrated into a set of goals; in the second phase, the goals, targets and indicators were developed. The OWG released the outcome document in July 2014. The proposal contains 17 goals with 169 targets covering a broad range of sustainable development issues.

Adopted by the UN General Assembly the outcome document is now the main basis for integrating the SDGs into the post-2015 development. A synthesis report from the Secretary-General is expected by the end of 2014, bringing together results from the different work streams in the process.

Integration of biodiversity and its role for human wellbeing

In the SDG process the link between biodiversity and wellbeing has officially been acknowledged, including "the living value of species beyond their commodity values" and its particular relevance for poor and vulnerable groups.[58] Biodiversity was explicitly addressed at the eighth session of the OWG, and the TST provided an issue brief on biodiversity in which it acknowledged the importance of biodiversity for providing basic goods, ecosystem services, ecosystem resilience, genetic diversity and also its cultural, spiritual and religious value.[59]

There has been discussion whether there should be a separate goal on biodiversity or biodiversity conservation should be integrated into other goals as a cross-cutting issue. As a recognition of the critical role of biodiversity in ensuring sustainable development, the proposed SDGs now include the stand-alone goals 14 "Conserve and sustainably use the oceans, seas and marine resources for sustainable development" and 15 "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss". Goal 15 includes inter alia the targets to "halt the loss of biodiversity, and by 2020 protect and prevent the extinction of threatened species", and also to "by 2020, integrate ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies, and accounts".[60]

The goals and targets concerning biodiversity focus on an ecosystem services narrative. In the chapeau, however, the Open Working Group acknowledges that "Mother Earth" is a

[58] Ibid, 27.

[59] Technical Support Team Issues Brief: Biodiversity

[60] Outcome Document - Open Working Group on Sustainable Development Goals, 19 July 2014 (http://sustainabledevelopment.un.org/focussdgs.html)

common expression in a number of countries and regions and notes that "some countries recognize the rights of nature in the context of the promotion of sustainable development", and that it is "necessary to promote harmony with nature".[61] Nevertheless, it is criticized that these elements contradict to the goal of promoting economic growth (goal 8), which does not take into account the environmental dimension of sustainability at target level.[62]

Opportunities for stakeholder participation

The consultation process has been transparent and broad, incorporated diverse stakeholders on and offline, and has informed the work of the OWG. Open and inclusive meetings with stakeholders were held the morning before each OWG session; representatives from each of the nine Major Groups sectors (business and industry, children and youth, farmers, indigenous peoples, local authorities, NGOs, the scientific and technological community, women and workers and trade unions) were seated as official observers to the OWG sessions. The steering committees of the thematic clusters were responsible for actively engaging with the major groups and stakeholders in preparing joint position papers or briefs for consideration of the OWG, and stakeholders could contribute to the e-inventory, whose outcomes fed in to the various thematic clusters.

The importance of indigenous communities was generally acknowledged during the SDG process, and they were represented as one of the Major Groups and provided frequent input to the OWG. In a comment on a zero draft of the SDGs, they stated that they were "pleased to see that Indigenous Peoples are well recognized"[63]. They urged the OWG on several stages of the process to reconsider target 1.1 (by 2030, eradicate extreme poverty by bringing the number of people living on less than $1.25 a day to zero), and focus on a measure of wellbeing rather than income alone.[64] Concerning ecosystems and biodiversity, together with the Major Groups of women and NGOs, the indigenous peoples proposed to specifically highlight indigenous territories and community-conserved areas as more effective mechanisms than protected areas to provide socio-economic and cultural benefits.[65] However, these proposals were not included into the goals.

During the SDGs process, the term "indigenous peoples" was included numerous times in early versions of the SDGs goals. Even in the zero draft of 2 June 2014, goal 15 included the target to "ensure free prior informed consent of indigenous peoples and local communities in decision making and natural resources management, and promote the use of their traditional knowledge".

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[61] Ibid.

[62] Beyond2015: Key Comments Beyond2015 Reaction to the Outcome Document of the Open Working Group on Sustainable Development Goals, August 2014 (http://www.beyond2015.org/sites/default/files/FINAL%20Beyond%202015%20Key%20Comments%20to%20the%20OWG%20SDG%20outcome%20document.pdf)

[63] Statement during the 12th session of the OWG: Priority Areas for the Indigenous Peoples Major Group (http://sustainabledevelopment.un.org/content/documents/10389Indigenous.pdf)

[64] Ibid.

[65] Synthesis of Major Groups inputs at OWG 9 (http://sustainabledevelopment.un.org/content/documents/3367OWG%209%20Summary%20Document-%20MGoS%20Inputs_March%2025_final.pdf)

However, in the final outcome document most of the references to indigenous peoples were deleted, and in the final statement the major group of indigenous peoples expresses its disappointment: "We are not in the chapeau. We are in merely 2 SDG targets. One under Goal 2, where we are referenced as small-scale food producers, and the other under Goal 4 regarding equal access to education and vocational training. All other meaningful references over the course of the last year or more to the term "Indigenous Peoples" were a target for deletion."[66]

2.2.2 The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

General characterization

The decline of biodiversity and ecosystem services and the need to strengthen dialogue between the scientific community, governments and other relevant stakeholders spurred a process to establish an independent intergovernmental mechanism for assessing the state of the planet's biodiversity, ecosystems and the services they provide.

Following three subsequent years of intergovernmental and multi-stakeholder meetings, the Busan Outcome in 2010 (UNEP/IPBES/3/L.2) set the foundation for what is now known as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services[67] (IPBES). With UNEP providing the Secretariat, the legally non-binding platform was established in April 2012.

IPBES aims to assist governments and the public in understanding the trends and challenges associated with human pressures on nature and support sustainable development and human wellbeing via the sustainable use of biodiversity. More concisely, it serves to translate knowledge into effective policy by facilitating structured dialogue between scientists and policymakers. The platform will synthesize, review, assess and critically evaluate relevant information and knowledge generated worldwide. IPBES is further foreseen to synergize the objectives of the UNFCCC, UNCCD and the CBD, as well as help to achieve the Sustainable Development Goals of the post-2015 development agenda and contribute to ecosystem-based approaches for disaster-risk reduction.[68] IPBES may be joined by all member countries of the United Nations; as of March 2014, there are 118 members.

The second plenary meeting of IPBES took place in December 2013. Major outcomes of the meeting included the adoption of the first Work Programme (2014-2018)[69] and the conceptual framework of the platform (IPBES/2/CRP.3/Rev.1). The Platform has identified four main functions, namely to strengthen: the capacity and knowledge foundations of the science-policy interface to implement key functions of the Platform; the science-policy

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[66] Open Working Group on SDGs 13th Session 16-20 June 2014, United Nations, New York. Statement of the Indigenous Peoples' Major Group (http://sustainabledevelopment.un.org/content/documents/10918IPMG.pdf)

[67] See http://ipbes.net/

[68] UNU-ISP, "UNU-ISP Helps Shape Agenda for Intergovernmental Biodiversity Body at IPBES-2 Meeting."

[69] IPBES/2/CRP.9

interface on biodiversity and ecosystem services at and across the sub-regional, regional and global levels; the science-policy interface on biodiversity and ecosystem services with regard to thematic and methodological issues; and communicating and evaluating the Platform's activities, deliverables and findings (UNEP/IPBES.MI/2/9, annex I, appendix I, sect. I).

To this end, the Work Programme has instituted three task forces on capacity-building (IPBES/2/CRP.12), knowledge and data (IPBES/2/CRP.13), and indigenous and local knowledge systems (IPBES/2/CRP.14) (discussed in more detail below). A set of assessments on the following topics are also planned: pollination and food production; scenario analysis and modeling of biodiversity and ecosystem services; land degradation and restoration; invasive alien species; the conceptualization of values of biodiversity and nature's benefits to people; and strengthening capacities and tools for sustainable use and conservation of biodiversity.[70]

The ambitious work program will be financed via a core trust fund, comprised of voluntary pledges and in-kind contributions from governments, UN bodies, the Global Environment Facility, other IGOs and additional stakeholders such as the private sector and foundations. At the conclusion of the second IPBES plenary meeting, more than half (US$ 25.4 million) of the total US$ 43.5 million required was already pledged.

IPBES's governance structures are not yet fully established, but emphasis at the second plenary meeting was on creating a flexible system, which can be adapted to developments and needs with time. The agreed elements of IPBES include the Plenary (decision-making body), the Bureau (overseeing the administrative functions of IPBES) and the Multi-disciplinary Expert Panel (MEP, carrying out technical functions). Additionally, task-specific expert groups and task forces will be formed to address the Work Plan's various deliverables (see below for more information).

Integration of biodiversity and its role for human wellbeing

IPBES's overarching goal (as outlined in the Work Programme 2014-2018) highlights the need to conserve and sustainably use biodiversity and ecosystem services to ensure long-term human wellbeing and achieve sustainable development. Objective 3d[71] further acknowledges the multitude of visions, approaches and knowledge systems for conceptualizing the value of biodiversity and nature's benefits to people beyond market values and, accordingly, the need for a "new tool for intrinsic, existence and bequest values".[72] This more holistic approach to biodiversity forms the foundation of IPBES's conceptual framework (Annex to decision IPBES-2/4) and serves as a basis for the development and implementation of its work program.

Within the conceptual framework, the term 'nature', for example, refers not only to scientific understandings (e.g. biodiversity, ecosystems, ecosystem functioning, evolution, the biosphere), but also to other knowledge systems (e.g. Mother Earth and systems of life).

[70] IPBES/2/CRP.9

[71] "Strengthen the science-policy interface on biodiversity and ecosystem services with regard to thematic and methodological issues."

[72] IPBES/2/CRP.9 (Objective 3, 10d)

"Perceptions of nature range from nature being considered as a separate entity to be exploited for the benefit of human societies to nature being seen as a sacred living entity of which humans are only one part" (Annex to decision IPBES-2/4, B.2.16).

The value of nature and its benefits to humanity are also recognized in a range of perspectives. Intrinsic, spiritual and existential values extending beyond material or market values are highlighted, as are instrumental values (contributions of ecosystem services to a 'good quality of life') and relational values (contributions to desirable relationships, such as those among individuals and between people and nature).

Finally, 'good quality of life' is characterized as being context-dependent and varying across and within societies. This multidimensional concept can include material, immaterial and spiritual components and take account of aspects such as access to food, water, energy and livelihood security as well as health, good social relationships and equity, security, cultural identity, and freedom of choice and action (Annex to decision IPBES-2/4, B.1.15). Distinctions between the understandings of human wellbeing within many Western societies and those of 'living well in balance and harmony with Mother Earth' are presented as examples of different perspectives that need to be taken into account in quality of life discussions.

Opportunities for stakeholder participation

The ambitions of IPBES are underlined by a strong involvement of stakeholders active in the natural and social science and development fields (e.g. governments and MEAs, NGOs and IGOs, UN agencies, indigenous people and local communities, the private sector and the scientific community), ideally functioning as both contributors and end users.

The involvement and importance of indigenous peoples, local communities and their knowledge are given particular emphasis. In addition to being acknowledged in the Platform's Operating Principles, the need to pay special consideration to these groups is mentioned within three of the four objectives within the Work Plan. Objective 1c, for example, highlights the platform's aim to "promote a meaningful and active engagement with indigenous and local knowledge holders in all relevant aspects of its work". A task force on integrating indigenous and local knowledge with conventional knowledge systems is planned for this purpose, aiming to facilitate the creation of a network of experts, global dialogue workshops of indigenous and local knowledge experts, and a review of regional case studies. Ultimately, the task force aims to deliver a set of procedures and methods for working with and including these knowledge systems within IPBES.

More broadly, a Stakeholder Engagement Strategy is one approach of IPBES to encourage wide participation. Broad stakeholder participation is viewed as being central for achieving an effective, relevant and credible platform, but agreements at the second plenary on implementing the work plan currently only allow for limited direct participation of civil society. For example, there are restricted options for direct nomination of experts (non-governmental nominations cannot exceed 20% of the selected experts) and review of the reports. The specifics of how the stakeholder participation should look and room for improvement are to be discussed at the third IPBES plenary in late 2014.

Open review processes within IPBES present an additional opportunity for stakeholder involvement. Between the first and second plenary session, all member and observer governments as well as other stakeholders of the Platform were invited to review, amongst other documents, the draft Stakeholder Engagement Strategy, Work Plan 2014-2018, and

Conceptual Framework to Guide the Work Programme. To increase transparency, the commented versions of each document are available for download on the IPBES website.[73]

While IPBES encourages broad participation, some skepticism exists regarding the ability of the current system to sufficiently include local and indigenous actors in the aforementioned participatory steps and in the writing/review processes. Furthermore, IPBES notes the need to ensure appropriate expertise and qualifications, but consensus on the specifics of the admission process for observers remains to be clarified (further discussions are planned at the third plenary).

2.2.3 The UN Committee on World Food Security

General characterization

The Committee on World Food Security (CFS) was set up in 1974 to serve as a forum for review and follow up of food security policies. The CFS was reformed in response to the food crises of 2007-2008 after three decades of work as an intergovernmental forum within the UN Food and Agriculture Organization (FAO).

CFS's work consists of coordination, advising, monitoring and communication supporting national processes that enhance food security. It also develops global strategies and recommendations, which are voluntary and not legally-binding. One of CFS's most outstanding accomplishments and an attest to the effectiveness of the reform is the creation of the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in 2012. A broad global partnership of international, regional and national organizations of different types drafted and reached consensus on the Guidelines in only four years.

Since 2010, the CFS is supported by the High Level Panel of Experts on Food Security and Nutrition (HLPE), which builds the science-policy interface of the UN Committee on World Food Security (CFS). The HLPE's steering committee consists of 15 experts from FAO, WFP, IFAD, CGIAR as well as a representative of the CSO/NGO as the vice chair; it aims to improve the robustness of policy making by providing independent, evidence-based analysis and advice at the request of CFS.

Integration of biodiversity and its role for human wellbeing

The CFS's understanding of biodiversity focuses mainly on the importance of protecting agricultural biodiversity as an essential component of food security, which includes "recognizing the importance of" the Nagoya Protocol and the International Treaty on Plant Genetic Resources for Food and Agriculture.[74] Biodiversity's importance for adaptation to climate change as well as indigenous and smallholder livelihoods are also highlighted. The lack and loss of biodiversity are seen as major causes of hunger and malnutrition. Local and indigenous knowledge is not only presented as key to preserve biodiversity and to support food security, but it is integrated in all organs of the CFS by the participation of diverse stakeholders. Transparency plays a central role in the CFS's work, as process reports,

[73] See http://ipbes.net/intersessional-process/current-review-comments.html

[74] UN Committee on World Food Security, "Global Strategic Framework for Food Security & Nutrition."

documents, and inputs are published. Though the work consists primarily of facilitating change, there is a sense of ownership of initiatives among the diverse stakeholders involved in the CFS.[75]

Opportunities for stakeholder participation

In 2009, the Committee underwent a substantial reform. The final reform document provides for peasant organizations and other CSOs to be full participants in policy debates, for the first time in the UN system. It defines the CFS as "the foremost inclusive international and intergovernmental platform" for food security, unequivocally based in the UN system, with a mission based on defending the right to food (see McKoen 2011). Moreover, it recognizes the principle of "subsidiarity" and emphasizes the need to establish strong linkages between the CFS and inclusive policy forums at regional and country levels. Thus, the CFS could serve as an example for a new form of global governance as a possible alternative to multilateral governmental agreements.

2.3 Summary

In the previous sections, we have discussed a range of policies pertaining to biodiversity protection and the role of biodiversity for human wellbeing and the possibilities for participation of indigenous peoples in the respective policy processes. This section summarizes and critically discusses who is currently shaping international and national biodiversity politics and the associated concepts of biodiversity and its meaning for human wellbeing.

Generally, one of the guiding principles for international development cooperation has been the principle of ownership. The principle of ownership is expressed, most importantly, in the Busan Partnership document:

> "Partnerships for development can only succeed if they are led by developing countries, implementing approaches that are tailored to countries' specific situations and need."[76]

This principle becomes relevant for the implementation and uptake of the above described international conventions and policy initiatives at the national level, because these are often financed and supported through international funding mechanisms and bilateral development cooperation. Wherever donor countries seek to support such efforts, they need to adhere to the principle of ownership and follow the priorities identified by the governments of developing countries. So while at the international level policies and the related concepts of biodiversity are shaped by the states involved jointly, the situation is different at the national level.

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[75] McKeon, *Global Governance for World Food Security: A Scorecard Four Years After the Eruption of the "Food Crisis."*

[76] Busan Partnership For Effective Development Cooperation, Fourth High Level Forum On Aid Effectiveness Busan, Republic of Korea, 29 November/1 December 2011, http://www.dev-practitioners.eu/fileadmin/Redaktion/Documents/Post-Busan_03_2012/Busan_FINAL_EN.pdf, para. 11

Yet another tension often occurs within a state between governments on one side and civil society actors and communities on the other. In the context of biodiversity, indigenous communities and small farmers are particularly relevant actors. The relationship between such communities and governmental bodies is not necessarily harmonious; in fact, such communities are often among the poorest and most marginalized groups within developing countries. From this perspective, the principle of ownership – meaning "state ownership" – can be quite problematic as civil society actors may have limited opportunities to make their concepts and demands relating to biodiversity heard within the national context.

The degree of participation in international policy processes varies between civil society representatives in general and representatives of indigenous communities in particular. However, even where participation mechanisms are rather advanced (such as in the CBD), there is sometimes criticism from indigenous groups about a lack of meaningful implementation and recognition of their positions in international negotiations (also see chapter 2.2.1 on the SDG process).

The way biodiversity and its links to human wellbeing are understood varies between the different policies: The CBD is dominated by an underlying concept of conservation through the valorization of biodiversity and thereby also an at least partial recognition of the benefits that biodiversity brings to humans. To a lesser extent, the intrinsic value of biodiversity is also recognized. While the UNFCCC itself has no direct reference to biodiversity, REDD+ initiatives have a link with biodiversity issues. While values of biodiversity are recognized within REDD+ initiatives, however, the respective safeguards rather impose limits on the actual goal of REDD+ to save and enhance carbon in (forest) ecosystems. A conceptual link between climate protection, biodiversity and human wellbeing is missing in the UNFCCC. The UNCCD predominantly recognizes the value of biodiversity in the context of safeguarding livelihoods of people in arid and semi-arid countries. Biodiversity is thereby strongly connected to land use practices (also in terms of agro-biodiversity), which is also among the key issues the convention is dealing with. Similar to the UNCCD, the CFS also follows a livelihood narrative to merit the role of biodiversity for human wellbeing, most importantly for food security and nutrition.

Compared to the UN conventions described above, more recent policy initiatives such as the SDG process and the science-policy platform IPBES adopt a more holistic view of biodiversity. While the concept of ecosystem services also prevails in their documents, other non-instrumental values as well as non-Western perspectives of the role of biodiversity (such as Mother Earth or sacred sites) play a more prominent role in both processes. It remains to be seen, however, how these often diverging perspectives of biodiversity will not only be acknowledged but also be used in practice for a more balanced valuation of biodiversity, which can potentially lead to other outcomes and even decisions compared to frameworks building exclusively on the ecosystem service concept. Adequately recognizing other forms of knowledge as upheld in the IPBES framework will play a major role in this respect.

To conclude, while there are variations in different fora and among actors, the most prevailing narrative regarding the relationship between biodiversity and wellbeing seems to be the one of ecosystem services and "pay to conserve", with the intrinsic value of biodiversity and its role in livelihoods playing an important, but somewhat lesser role. However, there are important recognitions of these other approaches. For example, the IBPES references to various different understandings of nature and a variety of knowledge systems. A rights-based approach – as demanded by some indigenous organizations – is continuously discussed but not yet established in the major UN Conventions. Positions by

states that have a more reserved position towards ecosystem services and valorization of nature, such as Bolivia, do not appear to be very influential.

All in all, it is probably fair to say that international and national biodiversity politics are predominantly shaped by states and scientific discourse; the latter will likely be strengthened in the future through IPBES as science-policy interface. In contrast, while indigenous and local groups probably play a more important role in international biodiversity politics than in other policy fields, their perspectives still do not play pivotal role in shaping the discourse about the use and protection of biodiversity and there are shortcomings concerning their meaningful participation.

3 Biodiversity and its link to wellbeing – dominant narratives

This chapter outlines the key narratives characterizing the current discourse on biodiversity and wellbeing on the basis of an extensive literature review. “Narratives” are used in many contexts and scientific disciplines; commonly, the concept is used to describe the telling of a certain “story”, as something that is socially and culturally constructed. The aim of framing a narrative is not to describe an objective reality, but to capture certain commonalities of how people write and speak about a given topic. Language is seen as the key medium of exchange in this process, which is viewed as not being neutral, but rather of constituting a particular worldview. Social groups and cultures tell stories with words and meanings that are specific to their group and represent their own perspective of the world.

Several scientific disciplines use narratives in written or oral forms (such as in interviews), either as a subject of study or as a method. For example, “narrative medicine” is based on the view that caring for the sick consists of a series of stories, and that medicine practiced with narrative competence is more humane and effective than conventional medicine.

The concept of narratives has become especially popular in political science. The way people “story the world” plays an important role in shaping political identity and ideology.[77] Political narratives refer to the way people construct disparate facts in their own worlds and weave them together cognitively to make sense of their reality. The narratives help people to understand themselves as political beings, as they create and use narratives to interpret and understand political realities. This is done individually, but also on a collective level as nations or groups; the shared narratives of a group provide the framework for common understandings and interpretation.[78]

In the field of international relations, the concept of strategic narratives has emerged more recently, viewing narratives as an instrument of power. Strategic narratives are tools for political actors to construct a shared meaning of international politics in order to shape the behavior of domestic and international actors. A persuasive strategic narrative that is constantly repeated can change how political actors experience themselves and can enable

[77] Shenhav, “Political Narratives and Political Reality.”

[78] Patterson and Monroe, “Narrative in Political Science.”

them to do what they would not do otherwise, like re-electing a party or committing resources to allies.[79]

The term is also used in the field of development cooperation. A prominent example is the application by the Development Cooperation Forum (DCF), which calls for a "new narrative of development cooperation that fits the transformation envisaged in the emerging post-2015 development agenda"[80] – although it does not further explain what is meant by the term 'narrative' itself.

Environmental narratives refer to the stories told about nature and humans' relationship with it. Defining narratives as widely shared ideas about policy, Hutton et al. (2005) use the term to describe two approaches to biodiversity conservation. The first narrative is based on the idea of national parks as wilderness areas (also called fortress conservation), leading to the creation of protected areas that exclude people as residents and users (especially in sub-Saharan Africa). This has been challenged by an opposing narrative, which stresses the need to not physically or politically exclude local people from protected areas and/or the conservation policy process, but to instead ensure their participation.[81] This shows that while the term has even been applied to biodiversity conservation, it appears from the literature that is has not been applied to biodiversity itself. One potential explanation for this gap could be the difficulties in separating the categories on a scientifically sound basis and clearly defining the boundaries between the narratives. The other reasons could be that the terms biodiversity and nature are used interchangeably.

The identified biodiversity narratives fall into two main categories: those that adopt a utilitarian perspective on biodiversity, in which nature is described in terms of the material, economic value it provides for humans in terms of goods and services (described in section 3.1), and those that focus on the non-monetary, non-material values, e.g. intrinsic, religious or spiritual, that biodiversity provides for humans and the human relation with nature in different cultures (section 3.2). The distinction between these two categories and its practical implications are discussed in section 3.3.

3.1 The practical utility of biodiversity for humans

Narratives that focus on the value and utility of biodiversity for humans dominate the current discourse on biodiversity and wellbeing. These 'utilitarian' understandings include those that define and place an economic value on the benefits provided to humans by nature (the concept of ecosystem services) and in many cases directly or indirectly provide employment (work and welfare), as well as narratives that see biodiversity not merely as the source of benefits, but as having essential value for the survival of particular groups of people (livelihoods perception).

[79] Zalman, "New Works on Strategic Narrative Advance Concept & Practice."

[80] 2014 Development Cooperation Forum, http://www.un.org/en/ecosoc/newfunct/2014dcf0.shtml

[81] Hutton, Adams, and Murombedzi, "Back to the Barriers? Changing Narratives in Biodiversity Conservation."

3.1.1 Ecosystem services

One of the most commonly used utilitarian narratives seeks to define ecosystems in terms of the goods and services they provide for humans. This narrative is centered on the concept of ecosystem services (ESS), which are seen to provide a range of material or non-material values.[82] Material values are produced by provisioning services (e.g. food, water, medicine), regulating services (e.g. water purification, climate regulation) and supporting services (e.g. nutrient cycling).[83] Non-material values are associated with cultural services, defined as the aesthetic, artistic, educational, spiritual and scientific values of ecosystems.[84]

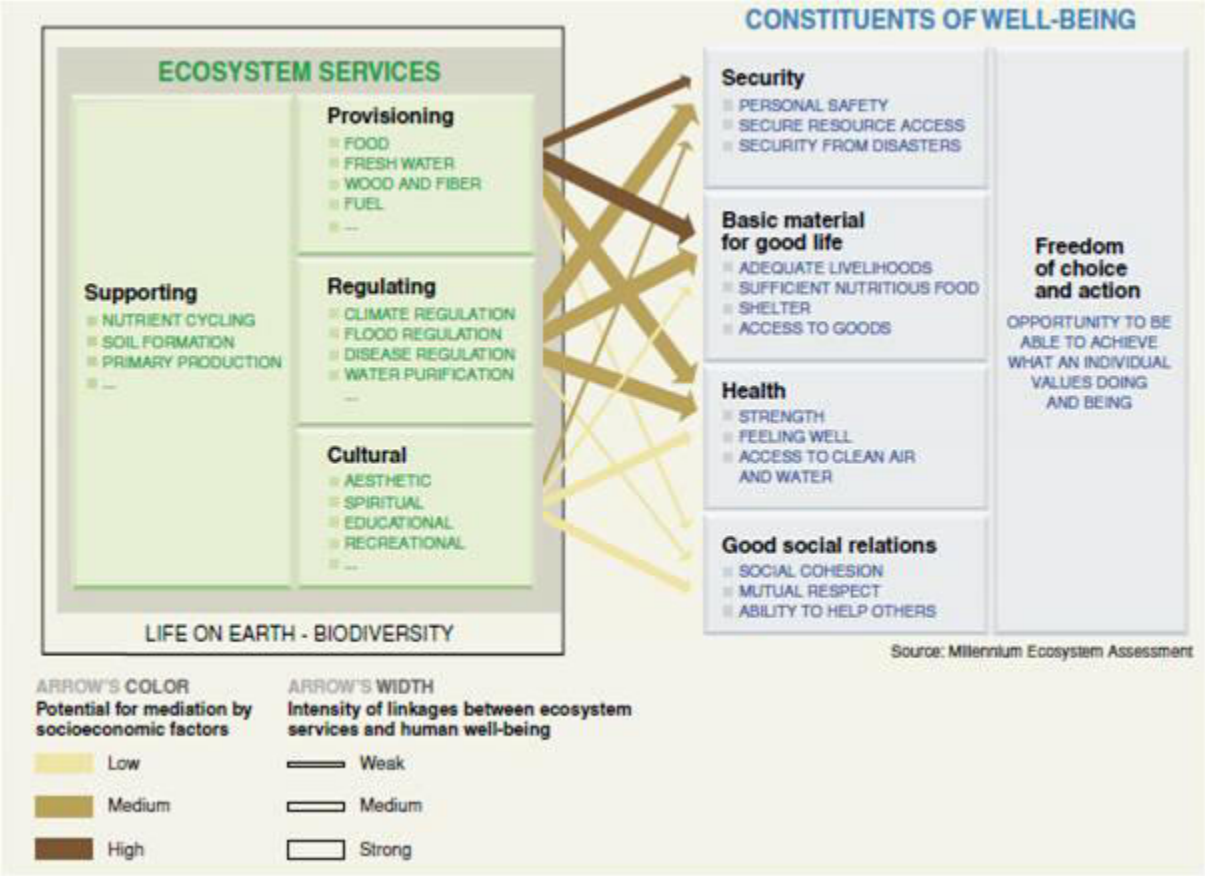

Figure 1: The strength of linkages between categories of ecosystem services and relationship to human wellbeing (MA 2005)

[82] See e.g. Millennium Ecosystem Assessment, *Ecosystems and Human Wellbeing: Biodiversity Synthesis*.

[83] Satterfield et al., "Culture, Intangibles and Metrics in Environmental Management"; For a more detailed description of the concept and the categories of ecosystem services, see for ex. Haines-Young and Potschin, "The Links between Biodiversity, Ecosystem Services and Human Wellbeing."

[84] Costanza et al., "The Value of the World's Ecosystem Services and Natural Capital."

ESS approaches acknowledge the link between biodiversity and human wellbeing in that biodiversity is seen to fundamentally underpin ecosystem function and service provision.[85] Hence, any changes in biodiversity will impact the benefits that people receive from ecosystems with consequent implications for human wellbeing.[86] In the case of human health, for example, abundant and genetically variable biodiversity is a major source for both modern pharmaceuticals and traditional medicines and is the resource base for innovative technologies used for disease treatment.[87] Human health values such as psychological wellbeing are also supported by biodiversity. Urban public green spaces form the arena of many people's daily contact with nature, especially in industrialized countries; such contact has measurable physical and psychological benefits that have been shown to increase with biodiversity.[88]

At its core, ESS is not an economic concept. However, on the basis of this concept, a number of schemes have been developed which revolve around the assumption that ecosystem components and functions can be assigned economic values.[89] Payments for ecosystem services (PES), for example, require beneficiaries or users of ecosystem services to pay the value of those services to the individuals or communities maintaining them. Biodiversity offsetting is a further scheme that relies on the premise that nature that is destroyed or lost in one place can be replaced by the preservation of nature in another location, when these two areas have an equivalent ecological value. An economic valuation framework has also been developed to translate individual ecosystem services into monetary values, the most well known of which is presented in The Economics of Ecosystem Services (TEEB) study. The above schemes and the TEEB framework use economic language to describe natural phenomena[90] and have come to dominate the narrative on ESS.

The ESS approach acts as a bridge between ecology and economics, and can be said to have succeeded in raising awareness of the need to internalize ecosystem-related values into economic decision-making processes. However, the coupling of the ESS concept with approaches that seek to monetarize nature has been widely criticized[91] as it is often to the detriment of intangible, cultural services and values such as heritage, religion, sense of place which are more difficult to assign a financial value to and thus do not fit neatly into this economic rationale.[92] A concurrent "economization" of language has also been described by George Monbiot: "We don't call it nature any more: now the proper term is 'natural capital'. Natural processes have become 'ecosystem services', as they exist only to serve us. Hills, forests and river catchments are now 'green infrastructure', while biodiversity and habitats

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[85] Millennium Ecosystem Assessment, *Ecosystems and Human Wellbeing: Biodiversity Synthesis*.

[86] Elmqvist and Maltby, "Biodiversity, Ecosystems and Ecosystem Services," 55.

[87] Parmesan and Skevington, *Biodiversity, Health and Wellbeing: Critical Links*.

[88] Fuller et al., "Psychological Benefits of Greenspace Increase with Biodiversity."

[89] Chan, Satterfield, and Goldstein, "Rethinking Ecosystem Services to Better Address and Navigate Cultural Values."

[90] Costanza, "Natural Capital."

[91] For a critical view on the economization of nature, see Fatheuer, *Neue Ökonomie Der Natur*.

[92] Chan, Satterfield, and Goldstein, "Rethinking Ecosystem Services to Better Address and Navigate Cultural Values."

are 'asset classes' within an 'ecosystem market'. All of them will be assigned a price, all of them will become exchangeable."[93] Furthermore, the separation of different ESS into categories (e.g. provisioning, regulating, supporting, cultural) neglects the inherent complexity, interaction and interdependence of these services[94] and prevents holistic decision-making processes from taking place, which would consider potential trade-offs between the individual services (e.g. between provisioning and regulating).

Criticism has also been raised about the valorization of nature more generally. The valorization can make the value of biodiversity visible and can create an awareness of the costs of environmental destruction. However, if some functions of nature are selectively monetized and made compatible with the capital market and the complex functions of ecosystems are thereby reduced to the monetizable aspects, it becomes difficult to keep a holistic view on nature conservation; this can potentially result in only the parts of nature that can be monetized being protected.[95]

Concern about valorization also highlights that the process makes nature an even more integral part of an economic system that essentially depends on the destruction of nature to survive. More specifically, nature is first reduced to units of ecosystem services, which in turn become a new item that capital markets can trade. This bears the risk that the necessary discussion about alternative development models and the way towards sustainability is replaced by the illusion that with the further integration of nature into the economic system, the business as usual path of development can be maintained.[96]

Indigenous and traditional societies, who have been acknowledged as being particularly dependent on natural resources and ecosystems for their livelihoods, are believed by some to suffer from injustices in the context of PES projects.[97] The Global Forest Coalition[98] argues that market-based environmental policies aggravate inequalities and favor those who have clear land tenure; they are further said to be difficult to participate in without investment capital, expertise, education or personal contacts. It should also be noted that many indigenous peoples and social movements have expressed concern about the term 'environmental services', as they consider it an expression of a utilitarian attitude towards biodiversity that does not take into account its intrinsic value and holistic nature (see chapter 3.2 for details).[99]

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[93] Monbiot, "Putting a Price on the Rivers and Rain Diminishes Us All."

[94] Elmqvist and Maltby, "Biodiversity, Ecosystems and Ecosystem Services," 55.

[95] Unmüßig, *Vom Wert der Natur - Sinn und Unsinn einer Neuen Ökonomie der Natur*.

[96] Kill, *Trade in Ecosystem Services. When Payment for Environmental Services Delivers a Permit to Destroy*.

[97] Ibid.; Unmüßig, *Vom Wert der Natur - Sinn und Unsinn einer Neuen Ökonomie der Natur*.

[98] An international coalition of NGOs and Indigenous Peoples' Organizations, fighting for social justice and the rights of forest peoples in forest policies. (See www.globalforestcoalition.org)

[99] Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*.

3.1.2 Livelihoods

The ESS narrative is used in both developing and industrialized countries. However, in the context of developing and newly industrialized countries, utilitarian narratives of biodiversity often take a livelihoods approach. In this case, the focus is placed more strongly on biodiversity as a prerequisite for survival, a basis for development and a tool for poverty reduction. For example, in the Southern African Development Community (SADC), biological resources are of strategic importance for development, accounting for a significant proportion of the region's Gross Domestic Product (GDP) and supporting the livelihoods of the region's primarily rural inhabitants who are directly dependent on natural resources for their survival.[100]In poorer communities, the contribution of biodiversity to livelihoods and wellbeing also has a gender aspect; biodiversity provides the cornerstone of the work and survival of many women, who traditionally use various indigenous plants and account for plants' multiple uses.[101]

From this utilitarian perspective, the maintenance, enhancement or restoration of biodiversity is viewed as a means to preserve livelihoods and provide greater socio-economic development for the benefits of human populations.[102] Many examples exist of projects that attempt to integrate biodiversity conservation and livelihoods by maintaining or improving the condition of natural resources on which people depend.[103] However, there are also many examples illustrating cases in which the closure of protected areas for biodiversity conservation has engendered conflict by denying communities access to the land and natural resources therein.[104]

The narrative on the connection between livelihoods, poverty reduction and biodiversity is increasingly being permeated by the concept of ESS. Large donors such as the EU increasingly use ESS to guide approaches for interventions that combine development and biodiversity.[105] Reflecting the trend described in section 3.1.1, economic valuation of biodiversity has also been presented as a way to assist in the development of policies to protect biodiversity and alleviate poverty.[106]

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[100] Southern African Development Community, *Regional Biodiversity Strategy*.

[101] CBD, *Biodiversity for the Wellbeing of Women*.

[102] Southern African Development Community, *Regional Biodiversity Strategy*.

[103] Some selected examples include community forest programmes in Namibia in Schusser, "Who Determines Biodiversity? An Analysis of Actors' Power and Interests in Community Forestry in Namibia." , tourism development in the Chitwan National Park, Nepal Nyaupane and Poudel, "Linkages among Biodiversity, Livelihood, and Tourism." and interventions to foster biodiversity and rural livelihoods in India Bawa, Joseph, and Setty, "Poverty, Biodiversity and Institutions in Forest-Agriculture Ecotones in the Western Ghats and Eastern Himalaya Ranges of India."

[104] Ibid.

[105] See e.g. European Commission, *Life, Lives, Livelihoods: The European Commission's Work on Biodiversity and Development*.

[106] Christie et al., "An Evaluation of Monetary and Non-Monetary Techniques for Assessing the Importance of Biodiversity and Ecosystem Services to People in Countries with Developing Economies."

In a similar context, political concepts involving the term "sovereignty" have become more salient in recent years. The most prominent example is probably "food sovereignty", but terms like seed sovereignty[107] or energy sovereignty[108] are also used. While the definitions of such terms vary, what they appear to share is a focus on people's right to define for themselves in what way they produce and consume food, use and breed seeds, or produce and consume energy. Thus, while these terms are about having access to such goods as food or seeds, they are also about individual and collective self-determination in producing and consuming them. This latter element also distinguishes e.g. the terms food sovereignty and food security.

The "sovereignty" terminology has been created in an attempt to fight certain unwanted political developments or change undesirable socio-economic conditions. For example, the origins of the concept of food sovereignty have been traced back to Central America in the 1980s. There, food sovereignty was understood as "national food security" that was threatened by a combination of structural adjustment programs, reduced state support for agriculture, and food imports from the United States. The concept was coupled with the right to continue to produce food domestically.[109] The terms are primarily used by social movements and NGOs (particularly those in developing countries); for example, the international small farmers' movement La Via Campesina has made the concept of food sovereignty popular. In the meantime, however, food sovereignty has entered into more mainstream political discourses.[110]

3.1.3 Work and income

Stressing the creation of opportunities for biodiversity-based employment is another way in which a utilitarian narrative is applied to biodiversity and human wellbeing. While the livelihood narrative encompasses a wider understanding of services from nature that sustain the entire lives of people (with some overlaps with cultural aspects, for example), the work and income narrative has a more specific focus on jobs that are directly or indirectly connected to nature and ecosystems. In other words, people can have jobs linked to biodiversity that provide them with a salary, but they would not say that nature or biodiversity are the material foundation of their livelihood.

This narrative often refers to 'green jobs' more broadly, which are subject to a range of interpretations and definitions; the concept of 'green jobs' is more widely used Western than

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[107] See for example www.seedsovereignty.org.

[108] See for example Friend of the Earth International, Energy Sovereignty, http://www.foei.org/en/what-we-do/energy-sovereignty

[109] From *Food Sovereignty to Peasants' Rights: An Overview of Via Campesina's Struggle for New Human Rights*, 3.

[110] For example, the UN Permanent Forum on Indigenous Issues has led debates on indigenous peoples and food sovereignty, see The Rights of Indigenous Peoples to Food and Food Sovereignty, Eleventh session of the UN Permanent Forum on Indigenous Issues, 14 May 2012, http://www.un.org/esa/socdev/unpfii/documents/2012/News%20and%20Media/EN%20Fact%20Sheet_Right%20to%20Food.pdf

in developing countries. Jobs may be directly linked to biodiversity in the field of protected area conservation and management as well as in primary industries requiring the direct provisioning services supplied by ecosystems (e.g. fisheries, forestry and agriculture). The provisioning of ecosystem services such as nutrient cycling and water provision may also indirectly support jobs. However, from a methodological point of view, it can be difficult to define and separate jobs by those that are related to the environment more generally or to biodiversity specifically.[111]

In the EU, a relatively large number of service sector jobs have been linked to biodiversity and ecosystem services. These linkages are, however, relatively weak and opportunities for substitution are relatively strong; this makes the jobs that are created less vulnerable to a degradation of the ecosystems on which they rely.[112] Developing countries, on the other hand, tend to have primary industries that are more directly dependent on biodiversity and ecosystem services. Nevertheless, it is chiefly in industrialized countries where the narrative of green jobs is promulgated.[113] Green jobs in the developed countries tend to be highly skilled.[114] In relation to welfare and wellbeing, people employed in these jobs also report higher levels of job satisfaction.[115]In developing economies, much of the employment linked to biodiversity is in poor quality, low-paid subsistence jobs in primary industries.

The argument of both the green jobs and livelihoods narratives is that through sustainable farming and forestry practices, win-win solutions can be found to both maintain biodiversity and enhance employment by supporting more sustainable jobs. Nature conservation and ecotourism are offered as opportunities for skilled, knowledge-based and sometimes relatively well-paid employment, often helping to diversify local economies and the employment opportunities they provide.[116] Nevertheless, as mentioned in section 2.3.2, such approaches also have the potential to create conflicts over biological resources.

3.2 Non-utilitarian narratives of biodiversity

Alongside the utilitarian narratives outlined above, the discourse on biodiversity and wellbeing also includes narratives that focus on the non-utilitarian or non-instrumental value of nature. The narratives employed here are different in practice, with utilitarian narratives often being aligned with market-based approaches, while non-utilitarian narratives are often able to include more intangible and incommensurable spiritual, cultural or religious

[111] Jurado et al., *The EU Biodiversity Objectives and the Labour Market: Benefits and Identification of Skill Gaps in the Current Workforce*, 37.

[112] Nunes et al., "The Social Dimension of Biodiversity Policy: Final Report."

[113] See, for example, COM/2010/0682 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Agenda for new skills and jobs: A European contribution towards full employment

[114] Jurado et al., *The EU Biodiversity Objectives and the Labour Market: Benefits and Identification of Skill Gaps in the Current Workforce*, 38.

[115] Ibid.

[116] Nunes et al., "The Social Dimension of Biodiversity Policy: Final Report."

perspectives[117] or even assign an intrinsic value to nature. Recognizing this separation in the narrative discourse, the following sections acknowledge the cultural, spiritual, religious, identity-based and intrinsic values offered by nature.

3.2.1 Religious / spiritual / cultural value

Despite fundamental differences in beliefs and traditions, many world religions agree that nature as a whole has a transcendental or inherent value that goes beyond economic considerations and which humans have an obligation to protect.[118] In recent times, this approach has also been adopted at the national level by governments, notably Ecuador and Bolivia. In these countries, the concept of 'BuenVivir' (discussed in more detail in section 4.2.6) is used to describe the importance of humans and nature living in harmony with one another. However, such concepts are not restricted to Latin America. In Buddhist ethics, for example, the fundamental rationale is that humans should not kill or make it more difficult for other beings to live.[119] Other traditional belief systems, in particular those of indigenous peoples, also often take a biocentric and non-utilitarian worldview that accords an intrinsic value to all forms of nature – both animate and inanimate. In this way, the intrinsic value allocated to biodiversity can be global in scope, and relate to the natural world as a whole.

Intrinsic value may also be assigned to a specific element of nature or site, which has a particular cultural, spiritual or religious meaning to a particular group, such as a sacred grove. These sacred natural sites often harbor high levels of biodiversity[120] and are protected by the local people based on their indigenous cultural and religious beliefs and taboos;[121] in some cases, these sites are protected more carefully than officially designated 'protected areas'. They can be the abode of deities, nature spirits or ancestors, or be associated with prophets, saints or spiritual leaders. They can be places for prayer or meditation or simply induce wellbeing and create a sense of awe. Often sacred natural sites are important places for the cultural identity of a clan, faith or nation.[122] They can also play a valuable role in biodiversity protection as a result of their high biodiversity, long history and the local people's willingness to protect and conserve them.

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[117] Chan, Satterfield, and Goldstein, "Rethinking Ecosystem Services to Better Address and Navigate Cultural Values."

[118] Palmer and Finlay, *Faith in Conservation. New Approaches to Religions and the Environment*.

[119] Harvey, "Avoiding Unintended Harm to the Environment and the Buddhist Ethic of Intention."

[120] Khumbongmayum, Khan, and Tripathi, "Sacred Groves of Manipur–ideal Centres for Biodiversity Conservation."

[121] Dudley et al., "Conservation of Biodiversity in Sacred Natural Sites in Asia and Africa: A Review of the Scientific Literature."

[122] Wild and McLeod, *Sacred Natural Sites: Guidelines for Protected Area Managers*.

Box 1: The sacred groves of Manipur, India[123]

In India, the existence of sacred groves has been reported from all over the country, with the 'Lai Umang' (as they are called in Manipur) being only one of many examples. The state of Manipur in north-eastern India is known for its ecologically distinctive and rich biodiversity with many endemic flora and fauna, along with its rich cultural diversity. Dedicating a patch of forestland to deities is a common practice with the communities of Manipur, which has a great significance for biodiversity conservation. In ancient Manipur culture, people worshipped natural phenomena like the sun, moon, sky, water and fire. They followed ancestral practices of animism, with the central focus being on the worshiping of forest patches that they regarded as sacred abodes of various deities. According to their beliefs, these forest patches (or sacred groves) are the property of gods/deities and must therefore not be damaged in any way. Common taboos in sacred groves in Manipur include the prohibition of cutting trees or the ban on accessories of leather as they are made from animals' skin and believed to be impure.

While on the one hand socio-cultural practices of indigenous people are significant in protecting and conserving sacred groves, on the other hand, sacred groves play an important role in maintaining the ecological balance, fulfilling the needs of people and protecting and conserving their traditional cultures along with wild flora and fauna. Therefore, a symbiotic relationship exists between people and sacred groves as seen in Manipur.

However, the indigenous cultures that conserve the sacred groves are disturbed and eroded due to the impact of development activities, urbanization, population increase, and changes in people's attitudes. Human interference and the exploitation of their resources, mainly for the collection of vegetables, medicinal plants and firewood pose significant threat to the sacred groves. The conversion to other religions and an erosion of peoples' belief in indigenous and cultural practices, particularly among the younger generation, results in the degradation of the sacred groves at an alarming rate.

Raising awareness about the use of traditional knowledge and practices may therefore not only be crucial for maintaining the identity of the communities, but also for the conservation of flora and fauna, as they are inseparably linked in the concept of sacred groves.

These sites are found across the world, but exist mainly in Africa and Asia.[124] In India, for example, the tribal communities of Meghalaya have a tradition of environmental conservation based on various religious beliefs, which have been passed on from one generation to the other. Based on these beliefs, certain patches of forests are designated as sacred groves under customary law and are protected from any product extraction by the community.[125] However, spiritual and religious dimensions also play a significant role in European culture in many people's relationships with nature. The concept of sacred or holy natural sites can be found across Europe in relation to shamanistic or local traditional natural religions, for example in Russia and Scandinavia.[126]

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[123] Khumbongmayum, Khan, and Tripathi, "Sacred Groves of Manipur–ideal Centres for Biodiversity Conservation"; Khan, "Center for the Conservation of Biodiversity: Sacred Groves in India."

[124] See Dudley et al., "Conservation of Biodiversity in Sacred Natural Sites in Asia and Africa: A Review of the Scientific Literature."

[125] Tiwari, Barik, and Tripathi, "Biodiversity Value, Status, and Strategies for Conservation of Sacred Groves of Meghalaya, India"; D. C. Saini et al., "Conserving Biodiversity Based on Cultural and Religious Values."

[126] Mallarach, "Spiritual Values of Protected Areas of Europe."

3.2.2 Identity

Local communities with a long livelihood tradition, indigenous people, and many farmers (including in industrialized countries) often have a strong connection with their land. Although they obviously acknowledge the utilitarian value of agro-biodiversity on which their yield depends, the productive environment (including the farmland) is also highly symbolic for many farmers and tied to their identity as 'good farmers'. Particularly regarding organic farmers, economic values are important, but the ethical and social values of nature also play a large role.[127] Indigenous groups are often strongly connected to their land, and having access to natural resources and biodiversity can be an important aspect of their identity. Thus, any disruption to this situation can have a strong impact on their wellbeing.

In many developing countries, women are responsible for caring for their families; in poorer, rural areas, they often depend directly on nature. In such situations, women have important roles as plant gatherers, home gardeners, plant domesticators, herbalists, medicinal plants' collectors, and seed custodians. Biodiversity is the cornerstone of the work and survival of many women, who traditionally use various indigenous plants and account for plants' multiple uses. In many countries, these individuals have been managing the interface between wild and domesticated species of edible plants for thousands of years.[128] In this way, biodiversity not only has a practical utility for these women and their families, but it also forms an important part of their identity as a result of this long-standing connection and, consequently, has the ability to contribute to their sense of self and wellbeing.

Thus, the identity narrative somewhat stands between the livelihood narrative and the cultural and spiritual values, with some overlaps. Depending on the context, however, "identity" is something people mention immediately when they are asked about their relationship to nature; this is a term that varies in its meaning depending on the individual in question and his/her values. On this basis, it is nevertheless worthwhile to keep this narrative separate, as neither the livelihood narrative or the narrative emphasizing the cultural and spiritual values of nature sufficiently explains what people mean when referring to how their identity is connected to nature.

Box 2: Tana Ai Indigenous Communities, East Flores, Indonesia[129]

Tana Ai is an area on the island of Flores, Indonesia. The several hundred communities that live in that area still share strong cultural and historical links, including a bond to mother earth – which is one meaning of the term Tana Ai.

Tana Ai is a steeply hilly region close to the sea; the only place to grow food is the hillsides. The traditional land use system practiced by the communities recognizes a number of zones, each with a different purpose. It distinguishes clearly between forested land, which may be cleared for agriculture, and forests that must be kept intact. It is not allowed to use certain patches of forest, which are said to

[127] See for ex. Soini and Aakkula, "Framing the Biodiversity of Agricultural Landscape: The Essence of Local Conceptions and Constructions"; or Kelemen et al., "Farmers' Perceptions of Biodiversity: Lessons from a Discourse-Based Deliberative Valuation Study."

[128] CBD, *Biodiversity for the Wellbeing of Women*.

[129] Basyir, "Tana Ai Indigenous Communities, East Flores. Maintaining Traditional Culture as a Way of Protecting the Environment."

be inhabited by spirits, and other parts are protected as the resting places of ancestors' souls. Extensive areas of the forested land remain with the indigenous communities and their management system and nobody is allowed to clear these areas. The indigenous people have a close connection to the land; they see the forests as a source of water and a place to hold rituals. The forest contains sacred places where people commemorate their ancestors and pray to them about their hopes and needs.

The communities of Tana Ai know and value their historical roots, celebrate traditional rituals related to the management of natural resources, value their customary laws and have a functioning customary governance structure. Their sacred places and objects for ceremonies are symbols of their strong ties with the natural environment and their ancestors. So even some of them have changed or became less important over time, they still retain their cultural values.

When asked about their own proposals and wishes, the people of Tana Ai mentioned that:

1. Future policies should involve indigenous peoples, not be decided on just by policy makers.

2. The support of all stakeholders is needed to recognize the existence of customary indigenous governance structures and rules and to preserve and further develop them.

3. The government and the indigenous community need a common policy forum to discuss land use planning issues and to resolve existing conflicts.

4. The existence of customary law needs to be officially acknowledged and national law enforcement should accommodate it.

5. The state's land use planning should not be based solely on macroeconomics because land issues are closely associated with the existence and the rights of indigenous peoples. The government should therefore support and promote small-scale community-based economic development.

6. It is vitally important to accommodate indigenous land use systems into measures to protect the environment and to sustain ecological services.

3.2.3 Intrinsic value

Some conservation biologists and environmental ethicists, amongst others, adopt an approach that assigns an intrinsic value to natural entities, e.g. ecosystems.[130] According to this rationale, biological diversity has a value that exists outside of its utility for humans and its value is valuer-independent.[131] Often, inherent values are confused with intrinsic values. The main difference is that inherent values are valuer-dependent. The aesthetic beauty of nature (e.g. a sunset across the sea or an eagle gliding through the mountains), for example, can be appreciated by human beings. When observing nature, humans appreciate nature as a contribution to their own happiness, which does not require a further argumentation about the utility (value) of nature.[132]

The main difference of the intrinsic value of nature or of specific parts or entities in it (individuals, species or ecosystems) to the inherent (or aesthetic) value is that it exists (once

[130] For an overview of the different meanings of the term "intrinsic" used in environmental ethics, see O'Neill, "The Varieties of Intrinsic Value."

[131] Justus et al., "Buying into Conservation."

[132] Eser, Neureuther, and Müller, *Klugheit, Glück, Gerechtigkeit. Ethische Argumentationslinien in der Nationalen Strategie zur Biologischen Vielfalt.*

acknowledged) without a human being assigning a value to this entity. One could argue that nature would even have a value if human beings had not existed. In environmental ethics, there is an ongoing controversy, who and what can have an intrinsic value, the so-called "inclusion problem".[133] Gorke (2010) argues that any criteria for excluding certain entities from the moral consideration would fail in a consistent ethical argumentation, which would automatically lead to ethical holism. Under the holistic theory, everything holds an intrinsic value, including e.g. human beings, animals, plants and all kinds of inanimate objects in nature. Others argue that all living entities (biocentrism) or only those living entities that have the ability to feel pain (pathocentrism)[134] can have an intrinsic value.[135] From an ethical point of view, all entities and objects (as moral patients) hold an intrinsic value that needs to be respected morally by humans (as moral agents) in their activities and decisions.

Given these enormous normative implications, it is quite surprising that the intrinsic value of nature has entered several legislations and political strategies. This can only be explained by the fact that the theoretical debate has either not been taken into account or was not sufficiently understood in policy-making. Even in the TEEB debate, it is often argued that besides the values derived from nature to humans through the ESS concept, there is an intrinsic value of nature to be considered. Theoretically, this perspective is misleading, because an intrinsic value of nature is absolute and cannot be complemented or balanced with its instrumental values (to humans).[136]

A social movement committed to this perspective is the deep ecology movement. The fundamental rationale is that the wellbeing of non-human life on earth has a value in itself and that this value is independent of any instrumental usefulness for limited human purposes.[137]

3.3 From theory to reality: applying the narratives discussion in practice

In this chapter, narratives have been outlined to emphasize the particular characteristics of different strands of thought on the value of nature and biodiversity. A distinction can be identified between narratives emphasizing the instrumental or utilitarian values of nature and those highlighting its non-instrumental or even intrinsic value.[138] Utilitarian narratives largely draw on an ecosystem services perspective, which tends to correspond to an economization of language in practice (e.g. "natural capital"). On the other hand, non-utilitarian narratives

[133] Gorke, *Eigenwert Der Natur: Ethische Begründung und Konsequenzen*.

[134] These would include human beings and all animals with a central nervous system (mainly mammals)

[135] For biocentrism see for example: Taylor, *Respect for Nature. A Theory for Environmental Ethics.*, for pathocentrism e.g.: Ott, "Begründungen, Ziele und Prioritäten im Naturschutz."

[136] Gorke, *Eigenwert Der Natur: Ethische Begründung und Konsequenzen*.

[137] Naess, "A Defence of the Deep Ecology Movement."

[138] See Justus et al., "Buying into Conservation"; Jax et al., "Ecosystem Services and Ethics."

refer to nature as being inherently imbued with non-material values (e.g. those that are cultural, spiritual, religious or identity-based).

This narrative division also runs to a certain extent between countries of the global north and south, as exemplified by the heated discussions surrounding the Rio+20 Conference. Here, the utilitarian concept of a green economy and strong support of the term 'natural capital' by the United Nations and World Bank provoked serious criticism from many stakeholders, largely comprised of members of the global south.[139] For example, the Cupula dos Povos ('Peoples Summit') ran parallel to Rio+20 and devoted an entire plenary to the "Defense of common goods against commodification." Furthermore, a sacred ceremony involved the signing of the "Declaration of Kari-Oca II" by 500 indigenous representatives, condemning the dominant economic approach toward ecology, development, human rights and the rights of Mother Earth. Some Latin American countries were also particularly opposed to discussions about the 'commodification of nature' through policy tools, such as payments for ecosystem services and valuation systems putting a monetary worth on environmental resources during the Rio+20 Conference.[140] Critics of the approach sought instead to bring alternative, non-utilitarian concepts such as 'nature as pachamama' or 'rights of nature' into the debate.[141]

Despite this seemingly clear dichotomy between the categories 'utilitarian' and 'non-utilitarian', however, the divide is perhaps not as black and white.[142] To begin, both approaches to the natural world are anthropocentric (with the exception of the intrinsic value narrative) and require human value judgments to be made. Furthermore, although the dominant narrative is predominantly focused on the economic value of ecosystem services, the concept itself was originally intended to provide a holistic framework and consider not only tangible aspects such as provisioning and regulating services, but also less tangible aspects such as cultural and spiritual values. In this case, the false dichotomy is created by the application of the concepts - such as ESS - rather than by the concepts themselves.

In reality, perspectives on nature and biodiversity will generally be a combination of both utilitarian and non-utilitarian narratives. The relative weight given to different narratives may vary according to an individual's culture, economic activity and/or nationality; this might also vary within a given individual according to the current situation in which they find themselves. Relevant factors are, for example: nationality, regional identity, cultural background, age, context (home, work) and gender.

These differences indicate the inherent complexity of our perceptions of biodiversity and nature at an individual level. Nevertheless, at a broader level, governments or organizations with a specific mandate on nature and biodiversity tend to embrace a single, dominant narrative. In this way, our nuanced understanding of biodiversity and nature is often lost in the creation of policies or strategies.

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[139] E.g. the Global Alliance for the Rights of Nature, La Via Campesina, and Pan African Climate Justice Alliance

[140] Bigg, "Five Things We've Learnt from Rio+20."

[141] Fatheuer, *Neue Ökonomie Der Natur*.

[142] Jax et al., "Ecosystem Services and Ethics."

4 The role of biodiversity in discourses about future development

At the heart of the discussion about the principles, concepts and aims of development cooperation lies the question: What does "development" actually mean? There is no consensus about this, and the understanding of development has undergone an ongoing evolution over the past decades. In the context of development cooperation, the term is used in a normative sense, meaning a process of positive change of societies and an improvement of living conditions. But the question of what a "positive" change or an "improvement" is remains the subject of much dispute.[143] This section is dedicated to a presentation of different concepts of development and the degree of openness of these concepts to different understandings regarding the value of biodiversity. It should be noted that the chapter provides only a very brief overview of each of the concepts, approaches or theories and does not fully address their many nuances.

In the first section (4.1), the authors present their understanding of the current mainstream concept of development. Subsequently, different alternative understandings are presented (4.2).

4.1 What is the predominant understanding of "development"?

The field of development policy has undergone several paradigm changes over the last decades of its existence. This does not mean, however, that the emergence of a new paradigm implies a total replacement of the former one; the ideas rather co-exist and can have an influence on decisions and views of current development cooperation.

In the 1960s, the prevailing notion was "catch-up" development. Development was understood as the process of the former colonies following the same path of development as the industrialized countries and thereby catching up with them – i.e. from agrarian societies towards industrialized societies. This should have been achieved through modernization, economic growth and the integration into the world market. Even in countries with high economic growth rates, however, social inequalities grew stronger; this contributed to triggering a debate around the crisis of development policy.

Consequently, the aim of development cooperation shifted in the 1970s and moved its focus from economic growth to basic needs and from the fight against "under-development" to a fight against poverty. The basic needs approach put the focus of development cooperation on living conditions on the ground. However, the focus on basic needs and poverty remained restricted to development organizations and was not adopted by political and bureaucratic elites who continued aiming at catching up with the western world and did not integrate poverty-oriented approaches into overall national politics.[144]

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[143] Rauch, *Entwicklungspolitik: Theorien, Strategien, Instrumente*, 35.

[144] Ibid, 71.

The 1980s are considered as the "lost decade" for developing countries. The emerging economic crisis hit the developing countries hardest as a result of falling commodity prices and high foreign debt. Guided by the so-called "Washington Consensus", the International Monetary Fund (IMF) and the World Bank imposed conditionalities on the borrowing countries and required them to adopt structural adjustment programs. These included a deregulation of the economy, liberalization of trade, privatization of state companies, reduction of budget deficits through fiscal austerity and a reduction of subsidies on food, education and health services.[145]

Sustainable development became prominent in the 1990s. The new guiding paradigm of development is multidimensional, including environmental, social and economic aspects. Sustainable development is a concept that includes the future, by designing the development process with the aim not only to meet the basic needs of people living in the present, but also for future generations. Sustainable development began to recognize the need to change the development path of industrialized countries and not only address developing countries.[146] Also, the aim of poverty reduction re-entered the political stage. In 2000, the UN established the Millennium Development Goals (MDGs), which are explicitly aimed at reducing poverty and have a strong focus on the social sector. They are conceptually based on the capabilities approach (see section 4.2.5), which defines poverty not in terms of income, but as a lack of basic capabilities.[147]

The traditional model of development cooperation follows the relatively simple notion of poverty reduction in developing countries through financial aid from OECD countries and is under pressure to change. Eradicating poverty has become more complex, and aid is no longer supposed to only address income poverty but rather address a larger variety of development challenges. Beyond basic needs and poverty reduction, the problems in partner countries vary considerably on the national and local levels.[148]

It is unclear in which direction future development cooperation will evolve, but the post-2015 development agenda is set to have broader goals. Implicit in this approach is the recognition that broad goals, such as inclusive development, environmental sustainability, and peace and security, cannot be achieved solely through the provision of aid. The discussion about the future of development policy is captured under the term "beyond aid", an umbrella term which covers the different aspects of the transformation of development cooperation.[149]

While there are discussions on the underlying paradigm of development cooperation that embrace multiple dimensions of the term 'development' and are not focused only on economic development, there are still quite strong traces of the older thinking of development as economic development and growth. For example, the OECD Development Assistance Committee (DAC) classification of developing countries, e.g. as low-income countries, is still based on Gross National Income (GNI) per capita (a measure derived from GDP).[150] The UN

[145] Nuscheler, *Lern- und Arbeitsbuch Entwicklungspolitik*, 32.

[146] Rauch, *Entwicklungspolitik: Theorien, Strategien, Instrumente*, 34.

[147] Ibid., 78.

[148] Janus, Klingebiel, and Paulo, *Beyond Aid*.

[149] Ibid.

[150] See OECD, DAC List of ODA Recipients, http://www.oecd.org/dac/stats/daclistofodarecipients.htm

classification of least-developed countries also relies heavily on economic indicators, although some indicators related to health and education are also included.[151] Many developing countries also still think of development in terms of economic growth. For example, Ethiopia's Growth and Transformation Plan (GTP) - a medium term strategic framework for the period (2010-2015) - has several main objectives, including an average real GDP growth rate of 11% and achieving sustainable growth within a stable macroeconomic framework. The other objectives relate to education and health services, state building, and meeting the MDGs.[152] In Ecuador, the 2009 -2013 "National Development Plan" entitled "National Plan for Good Living" has a much stronger focus on the wellbeing of citizens and environmental issues, with few of the "national objectives" referring explicitly to economic growth and development.[153] This illustrates that "development" strategies pursued by developing countries are quite diverse.

An "economic" understanding of development is very much compatible with ideas of e.g. "green growth" or the narratives on biodiversity that currently dominate the international policy discourse, such as the concept of payments for ecosystem services. Such narratives and concepts are also based on the idea of using and extending markets as drivers for development. On the other hand, non-utilitarian understandings of biodiversity that emphasize the intrinsic value of biodiversity (and the fact that it should and cannot be expressed in monetary terms) are less likely to be compatible with an economic view or understanding of development.

4.2 Alternative approaches

In the previous section, the authors presented their understanding of the dominant perspectives included in development to date – an understanding that has become increasingly broad and multi-dimensional over time, but has still strong undercurrents of conceptualizing development as economic development and growth. In the following sections, we present a selection of alternative understandings of development that may be more compatible with non-utilitarian concepts of biodiversity. The selection encompasses discourses and concepts, which either play an important role in current policy debates (e.g. degrowth and beyond GDP indicators) and/or have thematic linkages to biodiversity (resilience), wellbeing (economics of happiness) and development (capabilities approach). Finally, we also present a more regional and quite prominent example of how wellbeing and its relation to nature can be understood (buenvivir).

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[151] UN, Development Policy and Analysis Division, LDC information: The criteria for identifying least developed countries, http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_criteria.shtml

[152] Ministry of Finance and Economic Development (MoFED), The Federal Democratic Republic of Ethiopia, Growth and Transformation Plan (GTP) 2010/11-2014/15, Draft (2010)

[153] The Republic Of Ecuador National Planning Council, National Plan for Good Living 2009 – 2013, Building a Plurinational and Democratic State, Summarized Version, http://www.unosd.org/content/documents/96National%20Plan%20for%20Good%20Living%20Ecuador.pdf

4.2.1 Degrowth

In the context of the recent economic, financial, environmental and social crisis, a new concept has emerged called 'degrowth', or 'decroissance' in French and 'decrescita' in Italian.[154] Degrowth can be defined as a collective and deliberative process aimed at the equitable downscaling of overall production and consumption and of the role of markets and commercial exchange as a central organizing principle of human lives.[155] Degrowth refers to a number of different concepts and approaches embracing certain shared theoretical tenets and assumptions as well as to a movement aiming to put these into practice. The overall aim of the movement that has embraced the concept is to increase human wellbeing and enhance ecological conditions at the local and global levels both in the short and long term.[156] In degrowth approaches, wellbeing stems from equality, relation and simplicity, and not from material wealth.[157]

The basic assumption of degrowth theorists (which is also shared by ecological economists) is that the economy is a subsystem of the environment, and therefore the scale of the economic system has to be reduced to fit within the biophysical boundaries of the planet.[158] Advocates of degrowth fundamentally criticize the current economic system, which is seen as causing the exploitation of natural resources including land and ecosystems as well as the exploitation of humans and animals.[159] They argue that adjustments relying on technological solutions and product-based sustainable consumption approaches, which remain inside the logic of the current economic system, do not suffice to initiate the radical changes that would be needed to achieve ecologic sustainability.[160]

Instead, the degrowth movement sees a need for a fundamental and systemic change to create a changed system in which expansion will no longer be the necessity that it is now in capitalism, and where economic rationality and goals of efficiency and maximization of capital will not dominate all other social rationalities and goals. Selective degrowth is needed, involving a redistribution of resources between public and private consumption and within and between generations. Making the decision to 'degrow' cannot be left to market forces alone, but requires supportive political decision-making.[161]

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[154] In German, there is no good literal translation. Often, the term "Postwachstum", meaning literally "post-growth", is used. Using "post" instead of "de" stresses that the concepts rallied under this label are not necessarily concerned with a "shrinking" of economic activities, but rather with selective growth in some areas and a new way of measuring growth.

[155] Sekulova et al., "Degrowth: From Theory to Practice."

[156] Schneider, Kallis, and Martinez-Alier, "Crisis or Opportunity? Economic Degrowth for Social Equity and Ecological Sustainability. Introduction to This Special Issue."

[157] Kallis, "In Defence of Degrowth."

[158] Andreoni and Galmarini, "How to Increase Wellbeing in a Context of Degrowth."

[159] Schneider, "Degrowth of Production and Consumption Capacities for Social Justice, Wellbeing and Ecological Sustainability."

[160] Sekulova et al., "Degrowth: From Theory to Practice."

[161] Kallis, "In Defence of Degrowth."

The main aim of the degrowth movement is not to decrease GDP. If a decline occurs in a degrowth context, this is due to particular societal choices rather than as a result of being a goal in itself.[162] It is argued that GDP should not play the dominant role in politics that it currently does, as this comes at the cost of environmental and social considerations. The main goal should instead be the pursuit of wellbeing, ecological sustainability and social equity.[163]

Criticizing approaches that reduce wellbeing to income and GDP, degrowth theorists consider wellbeing to be determined by the fulfillment of basic human needs (e.g. access to clean water, food and education as well as social security), as well as by the satisfaction of desires related to individual preferences. Wellbeing is also largely dependent on subjective preferences. Human relationships are considered as an important element of societies and wellbeing.[164]

Support for the degrowth concept comes from various philosophical horizons, movements and sources. Anthropologists criticize the idea that countries of the global south have to follow the development model proposed by Western countries. Other supporters of degrowth can be found among ecologists defending the integrity of ecosystems and showing respect for living beings, movements emphasizing spirituality or non-violence, and most prominently ecological economists dealing with constraints linked to resource depletion.[165]

The degrowth movement shares a general skepticism about policies that involve creating new markets for goods and services that were previously not treated as commodities and can instead be considered as public goods. In this context, they also criticize the current trend towards the "monetarization of nature" as outlined in section 3.1.1. Thus, the concept of degrowth has close theoretical links to non-utilitarian narratives of biodiversity and livelihoods narrative compared to conventional economic thinking. Degrowth is not in favor of extending market rationalities, as is inherent in the concept of ecosystem services.

The degrowth movement is predominantly a European movement, with close connections to the concept of a steady state economy prevalent in North America; it is addressed in industrialized countries and capitalist economies. However, some parallels can be drawn to concepts such as *buenvivir* from Latin America. Thomson (2010) suggests that much can be learned from indigenous societies, as they contain elements central to the degrowth movement's call for a new economic, cultural, environmental and political paradigm.[166] He argues that "the Vivir Bien 'model' is not unlike the degrowth 'model'".

[162] Sekulova et al., "Degrowth: From Theory to Practice."

[163] Schneider, Kallis, and Martinez-Alier, "Crisis or Opportunity? Economic Degrowth for Social Equity and Ecological Sustainability. Introduction to This Special Issue."

[164] Andreoni and Galmarini, "How to Increase Wellbeing in a Context of Degrowth."

[165] Schneider, Kallis, and Martinez-Alier, "Crisis or Opportunity? Economic Degrowth for Social Equity and Ecological Sustainability. Introduction to This Special Issue."

[166] Thomson, "Pachakuti: Indigenous Perspectives and Degrowth."

4.2.2 Economics of happiness

The economics of happiness, or happiness economics, is a branch of economic research that has grown substantially since the late 20th century. It challenges the assumption of classical economics that wellbeing is a simple function of income, and criticizes the role of the Gross Domestic Product (GDP) as a measure of successful policy.

The first modern economist who revisited the concept of happiness was Richard Easterlin in the 1970s. His findings formed the basis for a more general interest of economists on the topic of happiness in the 1990s.[167]

Easterlin revealed a paradox that triggered interest in the topic, although the paradox itself and the conclusions that can be drawn are still debated controversially. While most happiness studies find that within countries, wealthier people are on average happier than poorer ones, studies across countries and over time find very little - if any - relationship between increases in per capita income and average happiness levels. On average, wealthier countries (as a group) are happier than poor ones (as a group); happiness seems to rise with income up to a point, but not beyond it. Yet even among the less happy, poorer countries, there is no clear relationship between average income and average happiness levels. This suggests that many other factors apart from income are important for people's happiness.[168]

Based on these findings, advocates of the economics of happiness see the problem that highly developed countries are not ecologically sustainable and increasingly cannot keep the promise of welfare, so there is a need for a new economic perspective which does not focus on growth and consumption, but is more sustainable and at the same time increases happiness and wellbeing.[169]

The approach of happiness economics uses the term happiness in the sense of 'being happy' as opposed to the random and arbitrary 'being lucky'. In general, the concept also distinguishes between two forms of subjective wellbeing, namely the emotional wellbeing or happiness, which is felt in a particular moment, and on the other hand cognitive wellbeing, satisfaction or contentment as a permanent or ongoing feeling.[170]

The concept of happiness economics recommends complementing income-based measures of wellbeing with other measures that are based on the results of large-scale surveys, across countries and over time, of hundreds of thousands of individuals who are asked to assess their own wellbeing and indicate what factors contribute to it. The surveys provide information about the importance of a range of factors that influence wellbeing, including income as well as e.g. health, marital and employment status, and civic trust.[171]

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[167] Graham, "The Economics of Happiness."

[168] Ibid.

[169] Schaaff, "Historische Lehren für eine ökologische Glücksökonomie."

[170] Ruckriegel, "Glücksforschung."

[171] Graham, "The Economics of Happiness."

The concept identifies several parameters as potential sources of subjective wellbeing: social relationships, physical and psychological health, social engagement and a satisfactory work, personal freedom, attitude or life philosophy and the satisfaction of (basic) material needs.[172]

Also considered important for human wellbeing is the liveability of the environment. Different ecosystems provide services for humans, and the changes of ecosystems therefore have an impact on the quality of these natural services and human wellbeing. There is a negative correlation between environmental degradation and wellbeing.[173]

The economics of happiness approach is closer to utilitarian than to non-utilitarian narratives on biodiversity as it is concerned primarily with human wellbeing and not with biodiversity protection as such. However, given that the approach stresses that wellbeing and happiness do not depend on material wealth alone, it is open to narratives such as those stressing the importance of nature for the cultural or religious identity of people.

4.2.3 Measuring development: Beyond GDP & alternative indicators for wellbeing

The most widely used measure of a country's economic progress is the GDP. GDP is an estimate of market throughput, summing up the value of all final goods and services that are produced and traded for money within a given period of time. Some 'nonmarket' economic activities are included in the GDP, such as defense spending by the federal government and non-profit spending on health care. But many other activities are entirely excluded from GDP accounting, such as non-paid work (including care work), and the (external) costs derived from the depletion of natural resources.[174] Also, in GDP accounting no difference is made between harmful activities (e.g. crime) and activities beneficial to societies. For example, a large-scale industrial spill accident may increase GDP if the clean up is undertaken by national companies paying workers.

Therefore, economists have warned that GDP is a specialized tool and that treating it as an indicator for general wellbeing is inaccurate and therefore dangerous.[175] There is increasing criticism also by economists against the use of GDP as an indicator not only for economic growth, but also for measuring standards of living. Critics argue that GDP does not properly account for social and environmental costs and benefits. It is also politically difficult to make decisions aimed at sustainable progress and wellbeing if welfare is considered from a purely financial point of view.[176]

Approaches critical of GDP can be subsumed under the umbrella term "beyond GDP". Such approaches are no concepts of how human societies do or should develop; they are about measuring how they develop. However, the indicators chosen are based on some implicit normative assumptions on what is a good/bad type of development and hence needs to be

[172] Ruckriegel, "Glücksforschung."

[173] Grimm, *Ergebnisse der Glücksforschung als Leitfaden für politisches Handeln?*.

[174] Costanza et al., *Beyond GDP: The Need for New Measures of Progress*.

[175] Ibid.

[176] Schepelmann, Goossens, and Makipaa, *Towards Sustainable Development*.

measured. For example, if one was indifferent about environmental destruction, there would be no need to measure environmental depletion.

Many EU and international policies use GDP growth as an indicator for assessing the success (or failure) of policies. The EU Regional Policies for example use a GDP threshold for regions to be eligible for EU funding, and the Stability and Growth Pact and the convergence criteria in the Economic and Monetary Union indirectly use GDP for their calculation of governments' debt and deficit as a proportion of GDP. However, the European Commission has recently been active in developing indicators that go beyond GDP and published a roadmap for moving beyond GDP in 2009.[177]

At the national level, at least three Member States have started addressing the problem of unsustainable GDP growth and established scientific councils to help governmental decision-making. Examples are projects on "What kind of growth is sustainable?" in Austria, the "Sustainable Development Commission" in the UK, and most prominently the "Commission on the measurement of economic performance and social progress", also known as the Stiglitz-Sen-Fitoussi-Commission, in France. Furthermore, the OECD launched a Global Project on "Measuring the Progress of Societies" to strengthen citizens' capacity to understand the social and economic context in which they live.[178] Also the German government launched a so-called "Enquete Commission on Wachstum, Wohlstand, Lebensqualität"[179], a body composed of policy-makers and experts from science and civil society, which promoted a new set of indicators to measure welfare and quality of life in Germany, consisting of three dimensions: Material prosperity, Social inclusion and Ecology. However, the process of further refinement and implementation of these indicators is delayed.[180]

Indicators beyond GDP

In order to remedy some of the problems associated with using GDP as a measure of progress and wellbeing, other indicators have been proposed. The alternative indicators can be roughly divided in three categories. The first category contains indicators adjusting GDP by including monetized environmental and social factors. However, the monetization of environmental and social factors remains difficult. The second category contains indicators replacing GDP and assessing wellbeing more directly, by assessing the average satisfaction or the achievement of basic human functions. The third category of indicators supplement GDP with additional environmental and social information. The number of alternative

[177] European Commission, "GDP and beyond Measuring Progress in a Changing World. Communication from the Commission to the Council and the European Parliamanent. COM(2009) 433 Final."

[178] Schepelmann, Goossens, and Makipaa, *Towards Sustainable Development*.

[179] English translation: "Growth, Prosperity, Quality of Life", the final report (in German) can be accessed here: http://dip21.bundestag.de/dip21/btd/17/133/1713300.pdf

[180] See http://www.welt.de/wirtschaft/article127341313/Bundesregierung-vertroedelt-die-Messung-des-Gluecks.html (newspaper article in German).

indicators is huge, so only some approaches will be presented briefly while for others only examples are listed.[181]

Indicators adjusting GDP use GDP as the foundation and add or subtract quantities to include environmental and social factors, but are based on much of the same economic data as GDP. These include the Index of Sustainable Economic Welfare (ISEW), the Genuine Progress Indicator (GPI), Green GDP, and Genuine Savings.

Green GDP, for example, is an index of economic growth incorporating the environmental consequences of that growth, including the depletion of natural resources and degradation of the environment. It measures what is valuable about nature, excluding goods and services already captured in GDP. The concept implies assigning prices and values to the components of nature that society benefits from, calculating consumed quantities in different units and calls for the accounting of ecosystem services as the end products of nature that directly yield human wellbeing.[182]

Among the **indicators suggested to replace GDP,** the *Ecological Footprint (EF)* is a resource accounting tool, which measures the extent to which the ecological demand of human economies stays within or exceeds the capacity of the biosphere to supply goods and services. The EF measures how much land area is required to sustain a given population at present levels of consumption, technological development and resource efficiency. Based on the EF is the *Happy Planet Index (HPI)*, an index of human wellbeing and environmental impact. The indicator shows the ecological efficiency with which wellbeing is delivered. It is based on two objective indicators (life expectancy and Ecological Footprint per capita) and one subjective indicator (life satisfaction). The HPI is not a measure of which is the happiest country in the world; it is instead a measure of the environmental efficiency of supporting wellbeing in a given country.

The *Quality of Life Index* is based on a methodology that links the results of subjective life-satisfaction surveys to certain objective determinants of quality of life across countries. The nine quality-of-life factors and the indicators used in the survey are: material wellbeing (PPP GDP per capita)[183], health (life expectancy at birth), political stability, family life (divorce rate), community life, climate and geography, job security (unemployment rate), political freedom, and gender equality.

An **indicator supplementing GDP** is The *Living Planet Index (LPI)*, a measure of the world's forests, freshwater and marine ecosystems which specifically focuses on the extent and severity of biodiversity loss. The LPI follows biodiversity trends by tracking the populations of 1,313 species of fish, amphibians, reptiles, birds, and mammals. The *System for integrated Environmental and Economic Accounting (SEEA)* tries to widen the scope of the conventional national accounts to incorporate data and indicators relating to environmental and social factors. In 2003, the 'Handbook of National Accounting: Integrated Environmental and Economic Accounting' was published jointly by the United Nations, International

[181] For detailed information on the presented indicators and a discussion of their strenghts and weaknesses, see e.g. Costanza et al., *Beyond GDP: The Need for New Measures of Progress*; and Schepelmann, Goossens, and Makipaa, *Towards Sustainable Development*.

[182] Boyd, "Nonmarket Benefits of Nature."

[183] PPP = Purchasing Power Parity, takes into account the relative cost of living and the inflation rates of the countries

Monetary Fund (IMF), the Organization of Economic Cooperation and Development (OECD), the Statistical Office of the European Communities (Eurostat) and the World Bank, as guidance for this process.[184]

The wider use of beyond-GDP indicators could facilitate a broader uptake of development concepts that do not focus on economic growth as a measure of and means to achieve development, but which are more multi-dimensional. Those beyond-GDP approaches that build on GDP or seek to supplement it with indicators measuring environmental progress have close links with the ecosystem services narrative. Both are about quantifying the benefits of nature in monetary terms. Indicators replacing GDP are more open to non-utilitarian narratives; these indicators do not necessarily build on monetary values, but are also more difficult to measure.

4.2.4 Resilience

The concept of resilience has its origins in physics and psychology, but was mainly applied in ecological science as a descriptive term. There, two distinct meanings of resilience have to be distinguished. The first is a narrow definition - also called *engineering resilience* - which refers to dynamics close to equilibrium and defining resilience as the time a system requires to return to an equilibrium point after a disturbance event. The second meaning was introduced by C. S. (Buzz) Holling (1973), who defined resilience as the amount of disturbance a system can absorb before it changes to another stable regime, which is controlled by a different set of variables and has a different structure. This has been termed *ecological* or *ecosystem resilience*, and acknowledges the fact that a system may have multiple stable states, which the first concept of resilience ignores.[185]

As an approach to analyzing not only ecological but also social and economic systems, resilience is increasingly used in broader societal contexts by various scientific disciplines. More broadly, resilience has entered many policy debates and has often become a goal in discussion on, for example, development, climate change adaptation, and humanitarian aid. Also, the proposed Sustainable Development Goals include, inter alia, targets of building resilience of the poor by 2030 or strengthening the resilience of marine ecosystems.

In many disciplines, human actions are seen as external drivers of environmental change that are separate from the natural environment. On the other hand, social-ecological resilience is about people and nature as interdependent systems; ecosystems and the social systems that use and depend on them are seen as inseparably linked.[186] In this perspective, resilience is defined as the capacity of social-ecological systems to absorb recurrent disturbances to retain essential structures, processes and feedbacks.[187]

In sustaining the resilience of the socio-ecolological system, biodiversity plays a significant role because it determines the capacity of ecosystems to reorganize after a disturbance (e.g.

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[184] UN et al., *Handbook of National Accounting: Integrated Environmental and Economic Accounting 2003*.

[185] Brand and Jax, “Focusing the Meaning (s) of Resilience.”

[186] Folke et al., “Resilience Thinking.”

[187] Brand and Jax, “Focusing the Meaning (s) of Resilience.”

by natural disasters such as fire or floods) and the ability to respond and adapt to environmental changes (such as climate change).

Human societies are regarded as being closely bound to ecosystems. Based on the idea of co-evolution, the social-ecological resilience approach assumes that ecological and social systems form one integrated system – the social-ecological system (SES) – that behaves as a whole; thus, the separation of human and natural systems is regarded as arbitrary and artificial.[188]

In this perspective, resilience has changed from a descriptive term to a normative one, where resilience is something desirable and the ideal is a community that has become a part of the dynamics of its surrounding ecosystem.[189] Because social change is regarded as essential for the maintenance of SES resilience, Walker et al. (2004) included adaptability and transformability into the framework of the resilience approach. Adaptability describes the ability of actors in a system to influence resilience. Transformability means the capacity of actors to create a fundamentally new stable system, when ecological, economic, or social conditions make the old system untenable, for example in the case of a rangeland area that has changed undesirably in ecologic conditions for livestock and is transformed to a new more resilient landscape by introducing less impacting opportunities for income like ecotourism.

The collective capacity of humans in a SES to manage resilience determines whether they can successfully avoid crossing into an undesirable system regime, or succeed in crossing back into a desirable one.[190] A SES can have multiple stable states, all of which are equal from a descriptive ecological point. However, from a social perspective, one state may be more or less desirable than another. For example, an ecological system may be able to support shrubs, grazing animals, and grasses in a variety of combinations. A ranching community may desire lots of grass and few shrubs for their cattle, but another community may be less dependent on livestock production and therefore may desire a different state with more shrubs and less grass. This shows that the state of the system and the types of services provided are a product of negotiation, as the way a community manages a SES is dependent on the respective knowledge, goals and values.[191]

The direction and dynamics of change are dominated by human actions, so adaptability is mainly a function of the social component.[192] Disturbances are often perceived as negative, but they also provide the opportunity for development and innovation, so managing resilience means directing a system in a way that ensures flexibility in case of disturbances and allows taking advantage of the inherent diversity of the system.[193] The resilience perspective shifts

[188] Kirchhoff, Brandt, and Hoheisel, "From Cultural Landscapes to Resilient Socialecological Systems," 51.

[189] Ibid, 52.

[190] Walker et al., "Resilience, Adaptability and Transformability in Social-Ecological Systems."

[191] Nelson, Adger, and Brown, "Adaptation to Environmental Change."

[192] Walker et al., "Resilience, Adaptability and Transformability in Social-Ecological Systems."

[193] Nelson, Adger, and Brown, "Adaptation to Environmental Change."

policies away from aspiring to control change in systems that are assumed to be stable, towards a management of the capacity of SES to cope with, adapt to and shape change.[194]

Traditional local cultures are considered to be experts in the management of ecosystems and credited with a social memory containing the accumulated knowledge about how to manage nature under local circumstances. They have accumulated a knowledge base on how to respond to environmental change, and allow for disturbance to enter at smaller scales instead of accumulating to larger scales, thereby precluding large-scale collapse and increasing resilience.[195] Traditional practices are often similar to the theory of complex systems, because they emphasize non-linear relationships, the existence of multiple stable states, cross-scale linkages in time and space, disturbance and surprise.[196]

The resilience concept provides for a highly integrative perspective of human activities and the dynamics of ecosystems. In the context of the ecosystem service concept, it is often used to (re-)align the economic valuation of the services with the impacts the utilization of the services has on the conditions of the ecosystems. Such interactions are often analyzed in inter-temporary scales, for example to alleviate trade-offs between provisioning, regulating and cultural ecosystem services. In other words, the resilience concept reconnects the human perspective of using ecosystems with the physical limits and thresholds of ecosystems. In its wider interpretations, resilience also widens the view towards societal practices and structures, which do not harm the integrity of ecosystems, but could boost wellbeing at the same time.

4.2.5 The capabilities approach

The capabilities approach is a framework for the assessment of individual wellbeing and social arrangements; it is mainly used in development studies and welfare economics, social policy and political philosophy. The approach is not meant to be a theory for the explanation of poverty and wellbeing, but rather a framework to conceptualize and evaluate these phenomena.[197]

The capabilities approach has provided the theoretical and philosophical foundations of the human development paradigm. According to this paradigm, the basic purpose of development is to enlarge people's choices and to create an enabling environment for people to enjoy a long, healthy and creative life. It covers all aspects of development and life - economic, political and cultural. The point of reference always remains the enrichment of people's lives and the expansion of their choices.[198]

The Human Development Reports that are produced annually since 1990 by the UNDP, drawing on the foundations of the human development and capabilities paradigm, represent an approach to translate the core ideas into operational policy prescriptions and move away

[194] Folke, "Resilience: The Emergence of a Perspective for Social–ecological Systems Analyses."

[195] Folke et al., *Resilience and Sustainable Development*.

[196] Berkes and Folke, "Back to the Future: Ecosystem Dynamics and Local Knowledge," 124.

[197] Robeyns, "The Capability Approach: A Theoretical Survey."

[198] Alkire and Deneulin, "The Human Development and Capability Approach."

from the focus on income and economic growth that characterizes the World Bank's annual World Development Reports.[199]The Human Development Reports have also given rise to the development of measurement tools of human development, especially the Human Development Index (HDI) and the Human Poverty Index (HPI).

One of the leading voices of the human development and capability approach is the philosopher and Nobel laureate in economics Amartya Sen. His work on capabilities and functionings provided the conceptual foundation for the new paradigm. Amartya Senalos helped to develop the initial conceptual framework and measurement tools used in the Human Development Reports, but his work further explored the policy implications of this development approach in areas that are of major contemporary significance.[200]

The basic concepts of the capabilities approach are capabilities, functionings and agency. Functionings are the various being and doing activities that people value and have reason to value. They are activities and states that make up people's wellbeing, for example being healthy and well-nourished, being educated and employed, having a circle of friends, being able to travel or to participate in political decisions. These functionings are not limited, so the concept applies to rich and poor people and countries likewise.[201]

Applying the capabilities approach to poverty reduction activities means to evaluate the functionings of people's wellbeing (in the course of assessing their quality of life, standard of living, social welfare or level of poverty), but not all functionings are relevant to every evaluation. In each case, it has to be identified what people value and which functionings a poverty reduction would need to be enhanced. Sen does not identify one particular set of functionings, because no set will apply to every evaluation.[202]

Capabilities, the second core concept, create the freedom to enjoy valuable functionings. The concept of capabilities combines functionings with the people's freedom to choose from different ways of living. Capabilities are the real and actual possibilities available to a given person, but include only possibilities that the person really values.[203] The focus of development and policy should be to make people enjoy some combinations of functionings, allowing them to expand their capabilities. Social arrangements should be evaluated according to the extent of freedom people have to achieve functionings they value.[204]

The third core concept is agency, which refers to the ability of a person to realize valued goals. Agency expands the scope beyond a person's own wellbeing to include solidarity with others.[205]

The difficulty in applying the capabilities approach in development policy is the decision which capabilities are most important. In Sen's view, the approach is explicitly open-ended in

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[199] Alkire, "Why the Capability Approach?"

[200] Fukuda-Parr, "The Human Development Paradigm: Operationalizing Sen's Ideas on Capabilities."

[201] Alkire and Deneulin, "The Human Development and Capability Approach."

[202] Alkire, "Why the Capability Approach?"

[203] Alkire and Deneulin, "The Human Development and Capability Approach."

[204] Alkire, "Why the Capability Approach?"

[205] Alkire and Deneulin, "The Human Development and Capability Approach."

the choice of capabilities as they vary over time and place and depend on what capabilities people value in different contexts.

Box 3: The Central Human Capabilities (Martha Nussbaum)

1. Life: Being able to live to the end of a human life of normal length

2. Bodily Health: including reproductive health; being adequately nourished, adequate shelter

3. Bodily Integrity: Being able to move freely from place to place; to be secure against violent assault, having opportunities for sexual satisfaction and for choice in matters of reproduction

4. Senses, Imagination, and Thought: Being able to use the senses, to imagine, think, and reason, having adequate education, freedom of thought and expression (political, religious etc.), freedom from pain

5. Emotions: to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety

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

7. Affiliation: social interaction, social bases of self respect, non-humiliation and non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, national origin

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, play, and enjoy recreational activities

10. Control Over One's Environment: the right of political participation, free speech and association, being able to hold property and having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure

This presents a different view than that of Martha Nussbaum, another leading proponent of the capabilities approach. She proposed a list of central human capabilities as she sees the need for an essentialist basis for any views about what constitutes a good human life. Nussbaum argues that it is crucial to overcome two challenges in the quest of specifying capabilities in e.g. Poverty Reduction Strategies or NGO projects, namely omission and power. When a specific group is asked to specify capabilities, they might overlook important capabilities or not include them for cultural reasons. In terms of power, she sees the danger that one powerful group could dominate the selection of capabilities according to their preferences at the expense of weaker groups.[206] To avoid these problems, she proposes a list of ten basic capabilities essential for a life in dignity. However, she has always stressed that this list is rather general and has to be specified by people in their respective context.[207]

Criticism is raised against the capabilities approach with regard to an alleged failure to sufficiently take into account environmental sustainability. Pelenc et al. (2013), among others[208], argue that although Sen acknowledges the environment as a key dimension to human wellbeing, this remains ambiguous and vague and they criticize the weakness of the

[206] Ibid.

[207] Nussbaum, "Capabilities as Fundamental Entitlements: Sen and Social Justice."

[208] For other articles on the subject, see the special issue "The Capability Approach and Sustainability", *Journal of Human Development and Capabilities* 14, no. 1 (2013).

ecological dimension in the capability framework.[209] They identify three major shortcomings of the capabilities framework: First, it does not acknowledge the services provided by the natural environment, like ecosystem services, although many functionings and capabilities that contribute to human development require ecosystem services as essential input; thus, only a sustainable use of the ecosystem services can generate people's capabilities in the long term. Second, they criticise that the capabilities approach does not acknowledge the dependency of human beings on nature and leaves no room for an intrinsic value of nature. The authors argue that before contributing to human wellbeing, the environment is a prerequisite for human existence per se and therefore an essential condition for the possibility of capabilities. Third, they argue that the capabilities approach does not address the responsibility of humans towards the environment, which is not compatible with a strong version of sustainability.

As evident from this criticism, the capabilities approach is closer to utilitarian narratives on biodiversity than to non-utilitarian ones. However, to the extent that a subjective, individual understanding of wellbeing is stressed in the capabilities approach, non-utilitarian perspectives on biodiversity may also become relevant. For example, preserving biodiversity as a means of allowing people to live in accordance with their cultural identity or religious beliefs may become an objective to be pursued by development cooperation if that is something people value.

4.2.6 BuenVivir and Vivir Bien

'BuenVivir' (Ecuador) or 'Vivir Bien' (Bolivia) has its origins in Latin America, where it has a strong tradition amongst indigenous people. BuenVivir aims at describing alternatives to traditional concepts of development by focusing on 'the good life' in a wider sense. It can be considered as an evolving concept that is unfolding in a range of contexts and which is characterized precisely by its plurality. There are many different interpretations depending on cultural, historical and ecological settings.[210] In general, different perceptions of BuenVivir seem to share that they "break with conventional concepts in several ways, in that:

- They rely on indigenous traditions and visions of the cosmos;
- They break with traditional concepts of development; and
- They focus on the relationship to nature."[211]

Another underlying aspect of BuenVivir is that human wellbeing is only possible within a community and in cohabitation with nature.[212] Thus, BuenVivir is markedly distinct from the idea of individual good life. It is only conceivable in a social context, mediated by the community in which people live.[213]

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[209] Pelenc et al., "Sustainable Human Development and the Capability Approach: Integrating Environment, Responsibility and Collective Agency."

[210] Gudynas, "Buen Vivir: Today's Tomorrow."

[211] Fatheuer, "Buen Vivir - A Brief Introduction to Latin America's New Concepts for the Good Life and the Rights of Nature."

[212] Gudynas, "Buen Vivir: Today's Tomorrow."

[213] Fatheuer, "Buen Vivir - A Brief Introduction to Latin America's New Concepts for the Good Life and the Rights of Nature."

BuenVivir has its roots in the term 'sumaqamaña' in the indigenous Aymara language,[214] or the word 'SumakKawsay' in Quechua language.[215] The term is translated as 'living well' (vivirbien) or 'a full life' (vida en plenitud). In general terms, this means "living in harmony and equilibrium, in harmony with the cycles of Mother Earth, of the cosmos, of life and of history, and in equilibrium with all forms of existence."[216]

BuenVivir includes critical reactions to classical Western development theory exploring possibilities beyond the modern, Eurocentric traditional development concept[217]. It refers to alternative approaches to development, which have emerged from indigenous traditions. Key critiques refer to the consumer and individualistic society; by contrast BuenVivir proposes ecological awareness and emphasizes the need to build a harmonious relationship with nature.[218]

The term has become popular in some Latin American government programs and is part of new constitutions in Ecuador and Bolivia. In both countries, indigenous people represent the majority of the population. In order to overcome the colonial past and exploitation of natural resources that has marked South America's history, indigenous movements are pushing for new guiding principles[219]. The constitutional processes in Bolivia and Ecuador can thus be seen as an attempt at bridging indigenous and Western concepts via the integration of indigenous concepts into crucial government documents and manifestos.[220]

The Ecuadorian constitution includes a section on "Regimen del BuenVivir"[221], a basic principle that forms the foundation and orientation of a new development model for the state. Compared with classic development models and traditional leftist discourse in Latin Amercia, BuenVivir represents a genuine conceptual innovation;[222] however, the approach is not without criticism. The major challenge in the next years will be the integration and implementation of BuenVivir across all sectors and spatial levels. A critical question is how to measure the implementation and impact of BuenVivir.

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[214] Aymara is an indigenous language spoken primarily by the people in the Andes and Altiplano regions in South America (in part. in Bolivia, Peru and Chile)

[215] Quechua is an indigenous language spoken primarily by the people in the Andes (in part. in Bolivia, Ecuador and Peru)

[216] Huanacuni Mamami, "Buen Vivir / Vivir Bien: Filosofía, Políticas, Estrategias Y Experiencias Regionales Andinas."

[217] Gudynas, "Buen Vivir: Today's Tomorrow."

[218] Lanza, "Buen Vivir: An Introduction from a Women's Rights Perspective in Bolivia (No. 2)."

[219] Ibid.

[220] Fatheuer, "Buen Vivir - A Brief Introduction to Latin America's New Concepts for the Good Life and the Rights of Nature."

[221] Article 275 states: "Buen Vivir requires that individuals, communities, peoples and nations are in actual possession of their rights and exercise their responsibilities in the context of interculturalism, respect for diversity and of harmonious coexistence with nature." (mainly based on the work of the General Assembly and its director Alberto Acosta, regarded as "spiritual father of Buen Vivir as a constitutional project")

[222] Fatheuer, "Buen Vivir - A Brief Introduction to Latin America's New Concepts for the Good Life and the Rights of Nature."

The Bolivian constitution also includes the protection of nature. In Article 8, the state promotes the ethical and moral principles of a pluralistic society.[223] Improving the quality of life and Vivir Bien remain listed in Article 306 as the basis of Bolivia's economic model, while "industrialization and commercialization of natural resources [as] a priority of the state" are also mentioned (Art. 335). In December 2010, the "Law on the Protection of the Earth" was adopted, which refers to the Universal Declaration of the Rights of Mother Earth. The law also required the establishment of a state authority (Defensoría de la Madre Tierra) that will be responsible for monitoring the validity, promotion, dissemination and implementation of the rights of Mother Earth. The legal text emphasizes the necessity of maintaining a balance in nature as a precondition for the regeneration of Madre Tierra, respect for it and the protection of its rights. However, it is interesting to note that a major indigenous organization, CONAMAQ, criticized the law as not being developed in coordination and agreement with the indigenous peoples.[224]

In both countries, the intrinsic value of nature is recognized and nature is regarded as a legal entity. However, it remains a significant challenge for the respective societies as a whole to adopt BuenVivir in their daily lives and combine this concept (if even possible) with the goal of stimulating and strengthening national economic development.

[223] amaqhilla, ama llulla, ama suwa (do not be lazy, do not lie, do not steal), suma qamaña (vive bien), ñandereko (vida armoniosa – harmonious life), teko kavi (vida buena), ivi maraei (tierra sin mal – Earth without evil, also translated as' intact environment'), and qhapaj ñan (Camino o vida noble – the path of wisdom).

[224] Fatheuer, "Buen Vivir - A Brief Introduction to Latin America's New Concepts for the Good Life and the Rights of Nature."

5 Integrating biodiversity in development cooperation – narratives and strategies

In chapter 4, different concepts of development of human societies have been presented. Trends leading away from a narrow focus on economic growth to a more multi-dimensional understanding, including the idea of environmental sustainability can be noted. However, strong traces of the prevalent economist thinking remain in the mainstream understanding of development, according to which development is primarily a result of market-based economic and GDP growth.

Of the different narratives on biodiversity identified, the ecosystem services approach is closest to such an understanding of development. While payments for ecosystem services do not have to be implemented through markets only, this is often where hopes for additional funding for biodiversity conservation are pinned on. Moreover, the ecosystem service approach is closely linked to the monetary valuation of components of biodiversity and thus converting these into tradable commodities and creating markets for such commodities. This is very compatible with an economist understanding of development.

On the other hand, some - but not all - of the alternative concepts presented in chapter 4 suggest a focus of development that is more compatible with other narratives of biodiversity and its relationship with human wellbeing. For example, supporters of the degrowth concept are often explicitly critical of ecosystem approaches and the valuation of nature. In the case of *BuenVivir* and, to a certain extent in the capabilities approach, the non-economic value of nature and biodiversity for human wellbeing is highlighted. Thus, strengthening alternative narratives on biodiversity in development cooperation is likely to become easier as development cooperation increasingly embraces other, multidimensional understandings of development.

While chapter 4 has stressed how biodiversity and wellbeing are tackled in the broader discourse about future development, this chapter focuses more strongly on development cooperation itself; more specifically:

Section 5.1 starts with an overview on the role of biodiversity in current development policy thinking, mainly from a German perspective.

Section 5.2 sheds critical light on current practices in development cooperation and highlights the risks that market-based instruments for biodiversity protection could impose on local and indigenous communities, based on the literature and insights gained from workshops and interviews.

Section 5.3 reflects upon the starting hypothesis of this study, which states that ecosystem service concept and economic valuation of biodiversity currently form the dominant narrative on biodiversity in development cooperation. The section also outlines implications this might have for the effective protection of biodiversity.

Section 5.4 presents recommendations as the basis for further discussion on how biodiversity protection can be more effectively integrated in development cooperation.

5.1 At the policy and strategic level

In several documents published by the German government and the Ministry of Economic Cooperation and Development (BMZ), the importance of biodiversity for development cooperation is explicitly emphasized. It is stressed that biodiversity is especially important for human livelihoods and life itself, which depends on intact ecosystems and the environmental services they provide, both in industrialized and developing countries. Many people's livelihoods directly depend on natural resources, particularly in southern countries. Therefore, the conservation of biodiversity is regarded as a key development policy objective. The European Commission and OECD also acknowledge the importance of biodiversity for ecosystem services and marinating the livelihoods of people in all parts of the world and for achieving the Millennium Development Goals and ensuring sustainable development and human security.[225]

The overarching framework for development cooperation is still provided by the MDGs. Biodiversity conservation is considered as being crucial for achieving the MDGs, especially for MDG 7 – achieving environmental sustainability; however, a strategy paper from the BMZ[226] also highlights the importance of biodiversity for the other goals:

> Biodiversity is the basis of the livelihoods of many poor people and a basis for income from the sale of biological products and tourism. It also provides ecosystem services and natural species diversity plays an important role in eradicating hunger (MDG 1). Women are regarded to play a special role in the conservation and use of biodiversity, since they are mostly responsible for fetching food, water and firewood. When biodiversity is lost, they lose access to the resources or have to travel long distances to have access, which makes it impossible for girls to attend school (MDG 2). Thus, biodiversity conservation also plays a role for the promotion of gender equality (MDG 3). Since biodiversity serves as a reservoir of substances for medical purposes, its conservation is also relevant for reducing child mortality, increasing maternal health and combating diseases (MDGs 4, 5 and 6). Finally, supporting developing countries in implementing the CBD is supposed to contribute to the achievement of MDG 8, the goal of developing global partnerships.

The BMZ identifies three major interdependent environmental challenges of our time: climate change, biodiversity loss and desertification. The ministry therefore recommends building synergies between the existing multilateral environmental agreements that address these challenges (CBD, UNFCCC, and UNCCD).[227] At a practical level, however, a lack of such synergies is identified. Implementation is hindered by the fact that the responsibility for the three environmental conventions often lies with different government agencies and ministries within the states that are parties to the conventions. Thus, despite the willingness in practice to work more synergistically, there are still difficulties when it comes to coordinated or even joint implementation.[228]

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[225] OECD, "Policy Statement on Integrating Biodiversity and Associated Ecosystem Services into Development Co-Operation."

[226] Federal Ministry for Economic Cooperation and Development. *Biological Diversity*. Strategies 166. Bonn, 2008. 6-7.

[227] BMZ (Federal Ministry for Economic Cooperation and Development) and BMUB (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety), *Committed to Biodiversity*, 8.

[228] Federal Ministry for Economic Cooperation and Development (BMZ), *Biodiversity in German Development Cooperation 2010*, 20.

The BMZ also aims to integrate biodiversity concerns into projects and programs of other sectors like water, sustainable land management, agriculture and food security, energy, education or governance, to promote the mainstreaming of biodiversity into existing and new initiatives.[229] For this purpose, several instruments and approaches have been developed. One of the concepts that the BMZ is promoting is the use of the ecosystem services approach.[230]

Another approach suggested for use in development cooperation is strategic environmental assessments. This approach is supposed to ensure that environmental concerns are considered at the earliest possible stage of decision-making in development project and strategies. This instrument is widely used in German development cooperation; the CBD also considers impact assessments as an important tool to maintain a focus on environmental issues in the planning and implementation of development measures. The OECD's Development Assistance Committee (DAC) has published a document entitled "Good Practice Guidance on Applying SEA in Development Cooperation".[231]

At all levels – EU, OECD and Germany – innovative approaches for financing biodiversity conservation are promoted, which include debt-for-nature-swaps (where the outstanding debt of a developing country with German institutions is cancelled if the country provides an amount of funding for biodiversity conservation in its own country)[232], Payments for Ecosystem Services (PES) and Wealth Accounting and Valuation of Ecosystem Services (WAVES). German development cooperation has significantly supported PES initiatives, in particular in creating suitable framework conditions, clarifying property rights, valuing ecosystem services and fostering new markets.[233]

[229] BMZ (Federal Ministry for Economic Cooperation and Development) and BMUB (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety), *Committed to Biodiversity*, 11.

[230] See above, section 3.1.1.

[231] Federal Ministry for Economic Cooperation and Development (BMZ), *Biodiversity in German Development Cooperation 2010*, 22.

[232] BMZ (Federal Ministry for Economic Cooperation and Development) and BMUB (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety), *Committed to Biodiversity*, 11.

[233] Federal Ministry for Economic Cooperation and Development (BMZ), *Biodiversity in German Development Cooperation 2010*, 50.

Box 4: Wealth Accounting and Valuation of Ecosystem Services (WAVES)

WAVES is a global partnership that includes the UNEP, UNDP and the UN Statistical Commission to support countries in implementing natural capital accounting. The initial implementing countries were Botswana, Colombia, Costa Rica, Madagascar, and the Philippines; Guatemala, Indonesia and Rwanda joined in 2013. These countries initiated programs for natural capital accounting and established national steering committees, carried out stakeholder consultations, identified policy priorities and designed work plans. The work plans include compiling accounts for natural resources like forests, water, and minerals, as well as experimental accounts for ecosystems like watersheds and mangroves. These work plans are currently in their implementation phase (2012-2015), and the final results and recommendations are to be presented at the 2015 Millennium Development Goals Summit.[234]

In the course of the discussion about Natural Capital Accounting, the World Bank included a wealth measurement indicator into its results management system for the first time. The World Bank Group Board approved in April 2014 a new indicator for the International Development Association (IDA) that focuses on the poorest countries: change in wealth per capita, which includes natural, physical, and human capital. This new indicator is planned to be included in all country partnership strategies.[235]

The European Commission assumes that the economic value of nature in developing nations has been underestimated. Ecosystem services and other non-marketed natural goods account for 47 to 89 per cent of the so-called GDP of the Poor; therefore, the EU supports initiatives and projects assessing the economic value of ecosystems, integrating environmental issues in national planning strategies for poverty reduction and macroeconomic policy instruments, and monitoring progress in turning policies into action.[236]

Box 5: Payment for Ecosystem Services (PES)

Payment for Ecosystem Services (PES) is a voluntary payment scheme for the conservation of ecosystem services. Incentives are offered to farmers or landowners in exchange for managing their land to provide some sort of ecological service. PES is often presented as new means to prevent further ecosystem degradation and biodiversity loss, providing a development perspective for the local communities at the same time. Over the past decade, PES programs have proliferated rapidly. At a global level, PES is prominent in the discussions under the CBD on resource mobilization for biodiversity.

One of the key positions of the German government concerning the post-2015 development agenda for sustainable development is that the internalization of external environmental costs should be increased significantly by 2030; it also promotes the use of environmental, social and economic accounts and the implementation of environmental management systems in addition to conventional growth indicators like the GDP. This National Capital Accounting should include the valuation of ecosystem services.[237] Dominant in all of these

[234] See http://www.wavespartnership.org/

[235] World Bank, *Wealth Accounting and the Valuation of Ecosystem Services: WAVES Annual Report 2014*.

[236] European Commission, *Life, Lives, Livelihoods: The European Commission's Work on Biodiversity and Development*, 18–19.

[237] German Federal Government, "Post-2015 Agenda for Sustainable Development: Key Positions of the German Government," III (8).

approaches is the narrative of ecosystem services, and especially the assumption that it is necessary to put a value on nature and biodiversity to raise funds for nature conservation and raise the awareness of the value and importance of nature and biodiversity for human livelihoods.

5.2 At the national and application level

The preceding section has shown that in strategic and policy documents guiding German development cooperation, the overall importance of biodiversity is strongly acknowledged, including from a livelihoods perspective. When it comes to tools and instruments in the practical work, however, there seems to be a trend towards a wider and sometimes exclusive use of the ecosystem service approach. This section is about how this approach influences development cooperation in partner countries. A particular focus is on how the use of the ecosystem service approach affects those people who embrace a different narrative of biodiversity, which is often the case with indigenous and local communities. The first part of the following section is mainly based on the interviews conducted and feedback received during the workshops; the second part on a more far-reaching analysis of documents and existing research on the topic.

5.2.1 Narratives on biodiversity in development cooperation

Generally, discussions with practitioners within the framework of this study have stressed that narratives highlighting the economic value of biodiversity are helpful in certain situations – in particular when addressing policy-makers in developing countries. Some have pointed out that the conservation of biodiversity is not always a top-priority of governments in developing countries; when partner countries set their priorities in line with the principle of ownership, environmental issues tend not to be on top of the list. Thus, it was considered important to enhance efforts at communicating the importance of biodiversity conservation through tailored approaches, including those that emphasize the economic benefits of biodiversity conservation.

The starting conditions for communicating the topic of biodiversity can differ significantly not only between policy sectors, but also between individual citizens. In the workshops in Ecuador and Berlin, a strong divergence of views with regard to nature was detected between local communities living in rural areas and the (growing) urban population with some of the inhabitants not having left the city area even once in their life. Another discrepancy in values was observed between generations. Older people are often more strongly bound to traditional values of nature, while younger people often lose the (inner) connection to their home area and, accordingly, also to their natural surroundings (see also section 3.2.2 on the identity narrative).

In some countries, efforts have already been made by practitioners to account for these different perspectives and potentially change them; for example, some projects have been conducted where children from urban areas where brought to “nature” for a first-hand experience of biodiversity. In other regions, urban citizens are insufficiently addressed by biodiversity campaigns and projects despite the significant role they play in elections and other decision-making processes (especially in cases where they constitute the majority of a

country's population). This can result in a significant lack of support for biodiversity protection targets and projects.

Moreover, the topic of biodiversity is often communicated only in narrow terms, e.g. as an issue of species protection or protected areas. It is thereby perceived as a niche topic, which may result in a failure to bring all relevant actors and sectors aboard. During a workshop held in Ethiopia, participants highlighted the lack of effective communication on biodiversity issues among all relevant actors, including NGOs, the private and public sectors, and local, regional and national stakeholders and authorities.

Practitioners working on the ground have indicated that certain tools and approaches are already applied to ensure that the biodiversity narratives embraced by the local communities are taken into account, e.g. through on-site visits and dialogues with the local population on their values and visions during the pre-phase of a project. Whether this happens consistently or only in some cases and if this consultation is carried out in an effective manner could not be assessed within the framework of this study. However, anecdotal evidence exists indicating that community involvement is not taken seriously in all projects dealing with community-based conservation efforts.[238]

It has been pointed out that developing relationships of mutual trust with the local population takes time and that the design and objectives of a project may need to be adjusted within its duration. This can be quite challenging, for example, when project implementation with pre-defined terms of references is outsourced to consultants. Furthermore, changes in behavior and attitudes usually require time and are not easy to measure; this presents a challenge as project durations are usually relatively short and donors expect quick and easy-to-measure results.

The experts involved in this study did not indicate any practical problems that arose from diverging narratives of biodiversity, e.g. between approaches of monetary valuation of biodiversity and non-utilitarian narratives held by communities on the ground. Indeed, there are examples of how instruments like payments for ecosystem-services have contributed to biodiversity conservation as well as to the wellbeing of communities, in particular when communities were strongly involved in the design of the instruments and payment schemes. For example, a brief case study by the reputable Indian Center for Science and Environment looks at an example in India where a downstream village pays an upstream village to stop grazing practices that cause soil erosion and the accumulation of silt in order to preserve a small dam. The author describes the case as a beneficial arrangement for both communities.[239] However, such small-scale arrangements between two communities do not automatically serve as a good example of how payments for ecosystems are usually implemented.

[238] For an example for an EU-funded project in Mozambique Kill, *Carbon Discredited Why the EU Should Steer Clear of Forest Carbon Offsets*, 14.

[239] Singh, *Payment for Ecosystem Services (PES) in India from the Bottom-Up*.

5.2.2 The impact of market-based instruments to conservation on the poor - insights from the literature

Generally, the impact of payment for ecosystem services and similar schemes on local and potentially poor communities has only been researched to a limited degree – and some of what has been published is "grey" literature. Moreover, it has been observed that studies tend to be written by advocates of markets, which has led to a shortage of analysis of costs of using market-based schemes and the impacts on the poor when doing so.[240] Partially, this lack of research may be due to the fact that some of these schemes in developing countries have only been established quite recently.[241]

There is clearly a quite diverse set of ecosystem services around which market-based instruments are built, ranging from emissions trading schemes over biodiversity offsets to ecotourism and benefit-sharing for the use of genetic resources and associated traditional knowledge. In developing countries, PES schemes tend to focus on forestry.[242] Due to the diversity of schemes, projects and markets, findings from a particular study may not automatically apply to other markets and contexts. Nevertheless, this section summarizes some of the observed problems associated to the use of market-based schemes from the perspective of poor, local, and/or indigenous communities.[243]

Payments for ecosystem services and similar schemes require an identification of those to which payments should be made; these are often the owners of a certain area of land, forest etc. However, poor communities and in particular indigenous groups often **lack enforceable property rights**[244] because traditional tenure systems are not necessarily recognized by formal legislation. In some cases, market-based conservation schemes have involved privatization of land, thus limiting access of local communities traditionally using such land[245] or local communities involved in the scheme are contractually prohibited from using forests or land in traditional ways[246]. In turn, limiting access to land or natural resources may have negative impacts of availability of food, medicinal plants etc.

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[240] Landell-Mills and Porras, *Silver Bullet or Fools' Gold? A Global Review of Markets for Forest Environmental Services and Their Impact on the Poor*, ix, 211.

[241] This point is made by Danielsen et al., "Community Monitoring for REDD+," 40 with regard to REDD+ schemes.

[242] Simelton and Viet Dam, "Farmers in NE Viet Nam Rank Values of Ecosystems from Seven Land Uses," 133.

[243] A more comprehensive overview of the costs and benefits of market-based schemes for the poor is contained in Landell-Mills and Porras, *Silver Bullet or Fools' Gold? A Global Review of Markets for Forest Environmental Services and Their Impact on the Poor*, 213f.

[244] Ibid., x; Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*, 11.

[245] An example from Paraguay is given by Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*, 12; an example from Madagascar is described by Kill, *Trade in Ecosystem Services. When Payment for Environmental Services Delivers a Permit to Destroy*, 35.

[246] For an example, see Kill, *Carbon Discredited Why the EU Should Steer Clear of Forest Carbon Offsets*, 17.

Participation in markets for ecosystem services often requires considerable **technical knowledge, education, contacts and bargaining capacity** – all of which are frequently missing within poor and marginalized communities. In the case of indigenous people, a lack of sufficient knowledge of the official language of the country in which transactions take place may be an additional obstacle.[247] These obstacles to equal participation in such schemes may be a reason why market-based schemes have been held responsible for exacerbating existing inequalities.[248] Moreover, those with money and thus the capacity to pay have been observed to have a stronger influence on the development of instruments and schemes than poor communities.[249] As a result, women often gain less from such projects than men, and the well-off within a community (often with more land) profit more than the less well-off.[250]

A negative impact of market-based schemes on **existing community governance structures** could also be detected. The Global Forest Coalition concludes in a report building on case study examples from Colombia, Costa Rica, India, South Africa, and Paraguay that it was "impossible to avoid the erosion of community governance over biodiversity when market-based conservation initiatives, like forest certification and ecotourism, were implemented. Put simply, the local communities and their councils are not strong enough to defend their community's interests against the powerful corporate interests driving market-based projects on their lands".[251] Such negative impacts may arise as a result of conflicting opinions within the community concerning the involvement in market-based schemes, e.g. questions on who are the legal representatives of the community to the outside world, or on the role of self-determination of indigenous communities in those schemes.[252]

Furthermore, a risk has been identified that **additional burdens and costs** are imposed on local communities through market-based schemes, for example to create the necessary infrastructure to be able to benefit from the schemes. These expenditures might be lost for fostering the local community more generally instead if no adequate compensation for such extra-burdens is granted.[253]

There does not seem to be much research on how market-based schemes are either affected by or change conflicting narratives on biodiversity held by, for example, local and indigenous communities. The Global Forest Coalition observes that "transforming the current non-monetary economy of the Indigenous communities into a monetary one tends to have

[247] Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*, 14.

[248] See ibid., 10.

[249] See Landell-Mills and Porras, *Silver Bullet or Fools' Gold? A Global Review of Markets for Forest Environmental Services and Their Impact on the Poor*, 15 Table 15.

[250] For an example from an EU-funded project in Mozambique, see Kill, *Carbon Discredited Why the EU Should Steer Clear of Forest Carbon Offsets*, 16f.

[251] Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*, 9.

[252] Examples are given in ibid, 18ff.

[253] Examples are given in ibid, 20.

profound impacts on cultural and environmental values and traditions".[254] The same study also relates that there was a

> "sense of disempowerment that many community representatives felt. In all cases, they revealed that their control over their forests and livelihoods had decreased because the main decisions were now taken by other actors. Thus, whereas communities had previously fostered their own governance systems, promoting sustainable management of biodiversity for their own and future generations, they were now more likely to act individually (deliberately or otherwise), pursuing their own individual economic interests: jobs, profits and financial rewards. Traditional biodiversity-related knowledge was less likely to be shared, communal lands were more at risk of being privatized and sold off, and biodiversity-friendly economic activities like bee-keeping activities might have to be sacrificed to protect monoculture timber plantations."[255]

Moreover, involving certain indigenous communities in market-based schemes might require the **introduction of concepts they are unfamiliar with** (e.g. the idea of attaching a monetary value to a plot of forest).[256] Communities may not fully understand what they receive money for, e.g. that environmental destruction has taken place elsewhere such as in biodiversity off-setting schemes. Thus, it seems plausible that market-based schemes change prevailing narratives of communities on biodiversity. Indeed, changes in perceptions of property rights have been observed in one study to be a consequence of PES schemes in Central America.[257]

Changes in worldviews and perceptions of nature are clearly not *per se* "good" or "bad"; not everything that is "traditional" or "indigenous" is automatically valuable. However, the more ecosystem service oriented approaches that are implemented in practice, the stronger the narrative becomes – and the smaller the chance becomes that alternative narratives will be accepted as a sufficient rationale for biodiversity conservation. This may even undermine customary conservation practices that have been undertaken without any monetary incentives[258], such as using certain natural resources sustainably as commons or conserving them as sacred spaces.[259]

The literature documenting such problems does not specifically investigate the role of development cooperation in these situations; however, it can be assumed that where donor countries and institutions of development cooperation are working on the ground and supporting projects implementing market-based instruments, they are likely to contribute to such negative impacts. In particular, conflicts seem to arise where local communities are not sufficiently involved in designing projects and schemes, and their rights (e.g. land rights) are

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[254] Ibid, 19.

[255] Ibid, 78.

[256] Even more fundamentally, according to Kill, *Trade in Ecosystem Services. When Payment for Environmental Services Delivers a Permit to Destroy*, 5 most indigenous and oral languages have no word for nature as such, but use specific names for specific places.

[257] Kosoy et al., "Payments for Environmental Services in Watersheds," 446.

[258] This point is made by Kill, *Trade in Ecosystem Services. When Payment for Environmental Services Delivers a Permit to Destroy*, 41.

[259] For an example from India of how sacred spaces contribute to conservation, see Temper and Martinez-Alier, "The God of the Mountain and Godavarman," 84f.

not effectively protected through the regulatory framework in place.[260] However, the above also shows a potential role for development cooperation, e.g. in the form of empowering communities that wish to participate in market-based schemes in critically assessing pros and cons or assisting in the development of regulatory frameworks that protect the poor when market-based conservation schemes are used.

5.3 Conclusions

The hypothesis presented at the beginning of the study consists of the following aspects:

- The ecosystem service concept and economic valuation of biodiversity currently form the dominant narrative on biodiversity in development cooperation.
- The narrative predominantly highlights the utilitarian value of biodiversity to humans, as expressed in monetary terms.
- It thereby ties in with a discourse in which economic development and growth as measured by indicators such as GDP per capita are considered as the most essential components of development.
- Cultural, spiritual and other non-utilitarian values of biodiversity are often insufficiently considered in development policies and cooperation.

The literature review conducted in this study together in combination with the collection of information and knowledge from interviews and workshops led to a partial confirmation of the hypothesis.

Chapter 2 showed that the predominant narrative of biodiversity in international policies related to development is the ecosystem service approach. Moreover, the livelihood narrative described chapter 3 also plays a significant role in international policies to explain the value biodiversity has for food security, but also for the economic development of local communities. Chapters 4 and 5 unveiled that the understanding of "development" as economic growth - which is still prevailing in the international policy discourse - is likely to interpret biodiversity from the utilitarian perspective, providing services to humans and supporting their livelihoods.

Other non-utilitarian narratives such cultural and spiritual values or an intrinsic value of nature are occasionally mentioned in the mainstream discourse of development, but are underrepresented in shaping development programs or strategies. This may be due to a variety of reasons, including:

- The **most dominant understanding of development does not leave enough room for different interpretations and ideas of wellbeing**. A wide concept of wellbeing (e.g. as outlined by the capability approach, see section 4.2.5) as the key aim of development opens a much wider perspective on the potential role of biodiversity in

[260] Winter, Murphy, and Harold Ludwick, *Payment for Ecosystem Services Markets on Aboriginal Land in Cape York Peninsula - Potential and Constraints*, 3 conclude that "the importance of secure property rights and good governance has been widely noted" in the context of developing PES schemes; Global Forest Coalition, *Life as Commerce: The Impact of Market-Based Conservation on Indigenous Peoples, Local Communities and Women*, 9 concludes that in countries "plagued by bad governance", the impacts of market-based conservation schemes "were even more devastating.

achieving development goals. This has already been recognized to some extent in more recent policy initiatives, such as the SDG process.

- **Progress in development is more difficult to measure when a wider perspective of wellbeing is applied**. A much broader basis of indicators would have to be used and adapted to regional contexts as values and wellbeing differ enormously between regions and even individuals. So far, no valuation methodology has managed to integrate the wide variety of values (or narratives) of biodiversity in a comprehensive manner, leading to a well-balanced basis for decision-making. The enormous effort Bhutan has made to estimate progress in development with particular reference to 'happiness' is still the only example worldwide.
- **The international discourses on development, wellbeing and biodiversity are dominated by certain actors and players**. The Western understanding of development as economic growth and the utilitarian perspective of nature are still dominant within the development context and are strongly promoted through scientific reports, political strategies and development frameworks. These understandings are increasingly being adopted by national governments in the developing world.[261]

A key finding of the study is that the **consideration of non-utilitarian narratives of biodiversity only starts, if at all, at the regional or local level.** From interviews and workshop discussions, it became clear that a much broader understanding of biodiversity, wellbeing and development is acknowledged in specific development projects and everyday work with communities and individuals; to the extent possible, these wider views are also considered in the implementation of projects. However, the interaction between the international, national and implementation (regional/local) levels remains challenging. Development organisations working at all of these levels are often confronted with the fact that communication and reasoning for biodiversity protection might be inconsistent depending on with whom they are talking, although the overall aim might be the same. At the same time, they are restricted by their own conditions and frameworks, which might not grant enough flexibility to adjust strategies and concepts to individual (project) contexts.

In the following chapter, recommendations are provided for more effectively integrating the protection and enhancement of biodiversity in development cooperation. The recommendations are based on the insights gained from the different information sources used for this study (interviews, workshops, literature and the case study of Bhutan and Nepal).

5.4 Recommendations on how to better integrate biodiversity in development cooperation

The following recommendations target both the integration of local and alternative perceptions and values of biodiversity in international cooperation processes, as well as how biodiversity protection can be enhanced more generally. It should be noted that the

[261] With particular exceptions like Bolivia, Ecuador, Bhutan and others, as has been emphasized in throughout this study.

recommendations predominantly target development and international aid organizations given their integral role as funding agencies and their potential to support national and even regional/local scale development efforts via the provisioning of information, resources, capacity building, etc.

When developing these recommendations, certain pre-conditions had to be kept in mind. Firstly, in line with the principle of ownership governing development cooperation, priority areas for bilateral development cooperation are set by developing countries. Many of them do not wish to focus on environmental issues in general, or biodiversity conservation more specifically; such priorities need to be respected by donor countries. Second, when discussing how to strengthen narratives and perceptions embraced by local and indigenous communities in developing countries, it is important to remember that a lack of appreciation of local and traditional perceptions and values can also be an expression of a strained relationship between states and local and/or indigenous communities. Such communities are often amongst the most marginalized and poorest in their countries. Thus, a stronger uptake of the biodiversity-related narratives of marginalized communities may require somewhat fundamental changes in the relationships between these communities and the state – an issue far beyond the scope of this study. Acknowledging these aspects, the following set of recommendations has been developed.

Strengthen institutional competencies and capacities to sufficiently address biodiversity and ensure cross-sectoral integration

There appears to be an urgent need to strengthen the capacities of public authorities working on the topic of biodiversity at both the national and regional levels. This point was highlighted in the workshops in Ethiopia and Ecuador and also raised by some experts in the interviews. Assessments are necessary to **determine existing weaknesses** in such institutions and areas in which additional skills could be beneficial. On this basis, **advisory and consulting services** are recommended for informing national political processes and implementing biodiversity-related policies, e.g. in the form of guidelines for involving local/regional stakeholders. In countries where such institutions already exist but have not been effective, evaluations should be conducted to identify the underlying causes as well as potential means for addressing these shortcomings.

The development and implementation of **cross-sectoral biodiversity projects** can be a good approach to demonstrate and strengthen the combination of sustainable economic development and efforts for biodiversity protection. In addition to existing initiatives (e.g. ecotourism and sustainable agricultural management), projects combining areas such as mining and biodiversity protection should be strengthened.

The workshop in Ecuador unveiled that another decisive factor for enhancing biodiversity protection at national level is the formulation of binding and measurable biodiversity targets in national strategies and respective action plans; these are often missing in partner countries or not sufficiently developed and implemented. International cooperation can support national governments in this development process and support the establishment of context-specific biodiversity targets as one priority area for action.

Facilitate tailored communication and advocacy to increase the awareness of policy makers, stakeholders and citizens about biodiversity

Development organizations should support national efforts **to collect and distribute tailored, audience-specific information about biodiversity** for both civil society (rural and

urban populations) and policy makers and, in parallel, **highlight the potential benefits** that can be obtained by successfully implementing projects. In this context, it is important to establish a two-way line of communication about biodiversity, providing information on the one hand and listening to other viewpoints and bearers of local knowledge on the other. Such exchanges can be enhanced by supporting platforms for discussions and negotiations.

Interviewed experts and workshop discussions broadly supported the importance of improved communication on biodiversity and its protection. A targeted communication strategy could make use of the various narratives of biodiversity as identified in this study (see chapter 3). This would serve the objective of supporting a pluralistic view on the subject and avoid too narrow and one-sided communication on the value of biodiversity (e.g. promoting only the ecosystem service approach).

In some cases, adopting a more **indirect approach** and focusing on particular aspects of biodiversity rather than trying to address its overall complexity can also help strengthen communication and outreach on the subject. If the term biodiversity becomes too technical or polarizing, communication on biodiversity-related objectives can sometimes be better achieved indirectly by talking about associated issues such as health, economic development, spirituality, agriculture and gender equality (depending on national priorities). However, raising awareness for the importance of biodiversity will have limited effects if the structural drivers of biodiversity loss (such as population growth and infrastructure expansion) are not addressed. Development agencies should therefore focus on reducing the pressure from such drivers, through work that may at first glance seem rather unrelated to environmental concerns.

For all activities, it has to be noted that written forms of communication (reports, articles, etc.) are often not adequate for conveying the importance and value of biodiversity, in part due to potentially high rates of illiteracy or a lacking reading culture in some countries. Information and awareness campaigns should be complemented with **new formats** (e.g. pictures, films, dialogues, events, road shows etc.) and new media in order to increase the level of enthusiasm for and reception of the topic. Non-utilitarian narratives of biodiversity (see chapter 3.2) should play a more significant role as these have the potential to move the heart and spirit of people instead of simply addressing their minds and sensibility.

More specifically, children and youth should be targeted through **innovative and modern environmental education**. In addition, **spaces** should be created for stakeholders and decision makers to experience biodiversity and nature firsthand in order to develop closer relationships to and understandings of the topic. Complementary instruments could include excursions and field visits, practical workshops, academic modules, school or community gardens and exhibitions.

Box 6: GIZ Project: Education for Sustainable Development, Mongolia[262]

The overall goal of the project was to raise environmental awareness and improve environmental behaviour, thereby enhancing the conservation and sustainable management of natural resources in Mongolia. As part of the GIZ program Climate Change and Biodiversity in Mongolia, this project has taken a 3D-approach by engaging in three different systems: the informal/media system, the formal/education system and the decentral/local governance system (Protected Areas). These

[262] UNESCO, *Education for Sustainable Development: Good Practices in Addressing Biodiversity*.

systems were linked to three different working levels (the institutional, organisational, and individual levels). The project strove to create and facilitate linkages, synergies and networks between those systems and levels – and therewith contribute to common learning processes leading to increased sustainability and development in Mongolia.

The innovative aspect of the project was mainly the process of selecting themes on which the project and stakeholders chose to focus their work. The starting point for this was the concerns of the people and the impact on them, evaluated through the question: What issues are of greatest concern to you?

Media institutions were strongly engaged in the process of developing high-quality media products. Part of the formal system was the engagement with local pilot schools, the elaboration of local curricula, and their linkage with the Mongolian University of Education as well as ongoing processes on the national level. As regards the local governance system, information centres were established and training was offered to managers, park staff and rangers in protected areas.

The tangible results of the project include the development of 92 media products (which had great resonance among the Mongolian public, including TV clips, documentaries, radio programs, posters, leaflets, books and a biodiversity rap-song landing in the Mongolian hit parade); the participatory development of 11 local pilot school curricula; and the establishment of information centres in protected areas, including the training of park staff, information centre managers and rangers.

Support and liaise with leaders and champions at the local, regional and national levels

Communication and the implementation of biodiversity targets and projects are believed to strongly benefit from the building of alliances with **leaders and 'champions'** at different spatial levels, according particularly to the Ethiopian workshop participants. Such individuals are important within political decision-making circles as well as in local communities. Champions in particular stand for a certain project or concept that has been proven successful and can potentially be transferred to other contexts. Successful strategies and projects are frequently not sufficiently known beyond the borders of their implementation, and resources are lacking to share the knowledge with other regions. This is a field where development organizations can provide support, mainly by bringing people together, ensuring a continuous exchange of best practice experiences and enabling charismatic leaders to inspire people not only within their communities but also beyond.

In a political context, such 'champions' can serve to convey the messages of other stakeholders, researchers, practitioners, etc within otherwise inaccessible arenas and inspire change on a higher level. They can also place pressure on regional and national governmental bodies. In some cases, it might also be useful to get engaged in **high-level advocacy** for biodiversity and other related topics. Nobel prize laureates, former presidents with a high reputation but also actors, well-known athletes or other kinds of (national) heroes sometimes have a stronger effect in getting messages across to people than any sort of information campaign. Teaming up with such people and their advisers in advocating for biodiversity protection has often been practiced by NGOs, but not yet extensively by development organizations.

Box 7: The Misali Islamic Environmental Ethics Project, Tanzania[263]

The Misali Island Marine Conservation Area (MIMCA) lies off the west coast of Zanzibar, Tanzania. MIMCA has at its centre a small, uninhabited island of coral rag known as Misali, which is forested and surrounded by some of the finest coral slopes in the entire Indian Ocean. It is also a turtle nesting ground. Fishing in this conservation zone provides direct livelihood support to an estimated 11,400 people. The problems appearing here are experienced by traditional communities worldwide - an expanding population, rising income expectations, low employment opportunities, depleting resources and threats from industrial development – in this case displacement by tourism. In addition, the overfishing by fleets of international trawlers have caused drastic depletion of fish stocks, which has forced local fishermen to dynamite the coral reefs in an attempt to maintain the level of their dwindling catches. However, the coral reefs function as spawning grounds for the fish on which they depend.

At first, the government and environmental agencies launched an education program, but few fishermen paid attention to the government leaflets. Then dynamite fishing was officially banned, but despite the threat of gunboats the communities refused to accept the ban. After many years of trying, it became clear that the conventional conservation practices were not having the desired effect.

The fishing villages of the East African coast are mostly Muslim, organized under a religious leadership of sheiks who have enormous authority in their communities. The basis of these fishing families' lives is Islam, meaning the Qur'an, Shariah laws, and the traditions and customs of the faith. So in a joint venture with the Alliance of Religions and Conservation (ARC), CARE International, WWF International and the Islamic Foundation for Ecology and Environmental Science (Ifees), the sheiks on Masali island came together to explore Islamic teachings about the appropriate use of God's creation. From these studies the sheiks drew the conclusion that dynamite fishing was illegal according to Islam, which was accepted by the local communities.

The outcome of the project was the publication of the Teachers Guide for Islamic Environmental Education[264] for the ulema and madrasa teachers to enable Islamic environmental messages to be disseminated to a wide cross section of the community.

Ensure meaningful and effective participation by local stakeholders and actors as well as consideration of traditional knowledge

Extensive knowledge about biodiversity and natural resources and their importance for livelihoods and wellbeing often exists within communities at the local level. However, this information is often ineffectively communicated to policy makers and thus not integrated in the design and/or implementation of development projects. It is therefore recommended that international cooperation efforts explicitly consider local and indigenous knowledge and support its wider use and exchange. This process can be enhanced by including an indicator addressing the **uptake of local and indigenous knowledge** in project evaluations.

Sufficient time and resources should also already be budgeted for the project-planning phase, in which **impact assessments or checklists** should cover the following aspects:

- assessing local needs and expectations;
- assessing interests of the target groups, power relations and relevant political interests regarding the protection of biodiversity;

[263] ARC, "Tanzania: Fishermen Say No to Dynamite - Using Islamic Environmental Principles"; Ifees, "The Application of Islamic Environmental Ethics to Promote Marine Conservation in Zanzibar."

[264] Khalid and Thani, *Teachers Guide Book for Islamic Environmental Education*.

- developing shared goals and understandings of actors' roles and responsibilities within the development process;
- trust building;
- establishing equal partnerships; and
- clarifying local values, rituals, traditions and understandings of biodiversity and nature.

It is important to acknowledge that participatory process in general, and particularly those relating to projects and consultation processes, require time and resources investments by those who participate. Often, leaders from local communities have to abandon their families and work to attend workshops or consultation meetings, which leads to incurred costs and potentially rejected invitations for participation from community members, especially when the process is expected to assume a significant amount of time. Meaningful participation therefore requires not only formal opportunities to get involved in processes, but **also financial, logistic and educational support** for community representatives in regional, national and international (policy) processes.

Box 8: The Forest of Hope Association, Rwanda[265]

The Forest of Hope Association (FHA) is a small Rwandan NGO concerned with the conservation of the Gishwati Forest Reserve in Western Rwanda. Rwanda is one of a number of East African countries that make up the Albertine Rift – a region recognised as a global biodiversity hotspot. The FHA was established in 2012 and builds on the Gishwati Area Conservation Programme (GACP), which began in 2008. The FHA's main activities are conservation education, improving local livelihoods and facilitating research on the biodiversity of the Gishwati Forest Reserve.

During four years of operations, impressive conservation impacts have been achieved, such as: illegal use of the forest has declined sharply; the size of the reserve has increased from 886 hectares to 1,484 hectares; and the chimpanzee population has grown from 13 to 20. Social benefits have also been recognised: the organisation has generated 29 jobs, of which 25 are filled by local people; 13 school eco-clubs have been established; and the capacity of 10 local cooperatives has been increased.

The FHA works in partnership with government institutions, with non-governmental institutions, at the local level with farmers who have plots adjacent to the Gishwati Forest Reserve, and also cooperates with local cooperatives. It builds their capacity in cooperative management and business plan development, links them to markets, and supports them in ecotourism development. FHA supports eco-clubs in schools by educating them about the environment and hygiene, sensitizing them about the importance of the Gishwati Forest Reserve and educating them about planting and caring for trees.

All of the local employees are from local villages, so they know the history of Gishwati's degradation and have experienced the positive changes due to the activities of the FHA. The employment of local people is seen as one of the major contributing factors to the success of the FHA.

The FHA also plays an important role as an intermediary between the government and the local people. It has successfully engaged in conflict resolution around resource use and in finding solutions to difficult social issues within communities by using local knowledge and other opportunities.

[265] Hughes, Roe, and Thomas, *Getting It Together. How Some Local Organisations in East Africa Have Succeeded in Linking Conservation and Development*.

For example, one of the early restoration activities was to remove eucalyptus trees that had been planted by local people within the core forest. Local people were unhappy about the loss of the trees, claiming ownership over them. The FHA was able to mediate with the Ministry of Natural Resources to agree that the trees should be returned to the people who had planted them, which increased the local support for conservation.

According to the FHA, the key to success is the involvement of local people in all stages of the project management, and without the help and understanding of the local people the FHA could not have successfully demarcated the Gishwati Forest Reserve, nor restore the forest and its biodiversity and educate local communities about its importance.

Promote long-term thinking and extend evaluating indicators towards non-utilitarian narratives

Sustainability and biodiversity conservation efforts require long-term policies. The case study of Nepal showed that the state suffers from short-lived governments and general political uncertainty and instability. Reliable long-term support from development agencies is therefore invaluable for those interested in realizing visions through effective policies. Development agencies should therefore commit to **cooperation over decades rather than years**. This in turn requires changes in the financing mechanisms of the development agencies and perhaps in related political decision-making in the donor countries.

The projects themselves need to include **indicators** to verify if biodiversity policies and obligations are being fulfilled, if local and alternative views of nature/biodiversity are respected (see above) and if non-utilitarian values of biodiversity are being considered. For instance, making the beauty of the environment an important planning criterion could spur an appreciable difference to the way access to services is realized, as this criterion would typically speak against the construction of roads and other crude infrastructure through relatively unspoiled landscapes. It might also lead to a preference for traditional ways of building that blend in with their surroundings, especially when adding new buildings to existing settlements (e.g. meeting houses, offices, storerooms, etc.). Similarly, if the values of living close to nature receive greater weight, planning might consider traditional agrarian lifestyles as rich and worthy of support and continuance, rather than primarily as deficient in comparison to urban and industrial lifestyles.

Box 9: Bio-cultural community protocols

At the community level, bio-cultural community protocols[266] can be a useful tool to ensure that values and perspectives of the local population are taken into account. The community develops a protocol detailing their values, local governance structures, conditions for foreign support, and access to resources. The aim of this is to inform relevant research institutes, state agencies and private companies about local decision making, core ecological, cultural and spiritual values and customary laws relating to their traditional knowledge, innovation and practices and resources. In this way, communities can increase their capacity to enhance the local implementation of international and national environmental laws and provide clear terms and conditions to regulate access to their knowledge and resources.

The Lingayat Biocultural Protocol[267]

[266] http://www.unep.org/communityprotocols/PDF/communityprotocols.pdf

[267] LPP and LIFE Network, *Biocultural Community Protocols for Livestock Keepers*.

The Lingayat are a large community in southern India, living in the Bargur Forest Range in the Whestern Ghats. They raise a unique cattle breed called Bargur and manage the local forests. Their cattle-keeping practices have also ritual meaning, for instance a few animals in each herd are devoted to the god Matheswaraswmi and maintained until they die a natural death.

Their biocultural community protocol was established in 2009. The Lingayat mentioned a dramatic reduction of the Bargur cattle population, the threat through the expansion of the elephant population, which destroys their crops, and the closure of the forests by the Forest Department. In spring 2010, the local forest department denied the Bargur cattle breeders the “penning permits” which have provided them with the permission to pen their herds in the forest during certain parts of the year. This represented a grave threat to the livelihoods of the Lingayat and the survival of the Bargur cattle breed. The community used the Biocultural Protocol in its efforts to revert the decision.

Through the process of establishing the protocol, the livestock keepers became aware of the value of their traditional breeds and resources and of their knowledge in managing them. The Lingayat committed themselves to measures to maintain the integrity of the ecosystem including protecting the forest against fires, sustaining the predator population by offering some of their livestock as prey, disallowing granite quarries, combating logging and poaching, and eliminating Lantana, a toxic, invasive plant species. With respect to livestock, they continued the customary manuring of the forest as well as rotational grazing, to keep their traditional Bargur cattle breed and conserve their ethno veterinary knowledge.

Biocultural community protocols also change outside perception and make visible the ways of life, practices and situation of the indigenous and local communities creating the protocols. Biocultural community protocols establish these as embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity, which are entitled to certain rights under the CBD.

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