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International agreements for the conservation and sustainable use of biodiversity – with special emphasis on the Convention on Biological Diversity (CBD)

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Introduction

Although there are several international agreements for the conservation and sustainable use of biodiversity in place, this article focuses on the UN-Convention on Biological Diversity (CBD) since it is the most comprehensive agreement in this field - as its objectives, its scope, and the number of Parties to the Convention are concerned.

Biological diversity

Biological diversity (or in short: Biodiversity) as defined in Article 2 of the CBD “...means the variability among living organisms ... and the ecological complexes of which they are part.” This includes the diversity of ecosystems, the diversity among species, and genetic diversity and relates to wild species as well as to domestic species. There are numerous ways of measuring certain aspects of biological diversity. For example to identify a representative selection of all major habitat types (like the WWF’s Global200-Programme, OLSON & DINERSTEIN, 1998¹), or to identify the areas of the world hosting the highest number of plant species per given unit area (MUTKE & BARTHLOTT, 2005), or to point out areas with the highest number of endemic bird species (STATTERSFIELD ET AL., 1998), or to show where the centres of genetic diversity for major food crops are located (PRIMACK, 1993), to name but a few.

Biodiversity has global values: Human well-being depends to a large extent on ecosystems and the many goods and services they provide as the „Millennium Ecosystem Assessment²“, a comprehensive world-wide scientific study, revealed. Another study on “The Economics of Ecosystems and Biodiversity” (TEEB³) clearly showed their economic importance. But there are also global threats to biodiversity caused by direct drivers (like land use change and habitat degradation, over-exploitation, introduction of invasive alien species, climate change and eutrophication) or indirect drivers (like demographic, economic and socio-political changes).

¹ For more information on the WWF Global 200 – programme (current lists of ecoregions, maps etc.) visit:

http://www.panda.org/about_our_earth/ecoregions/about/ ;

http://www.panda.org/about_our_earth/ecoregions/ecoregion_list/ ;

http://www.panda.org/about_our_earth/ecoregions/maps/

² Report available for download at: <http://www.millenniumassessment.org/en/index.aspx>

³ Report available for download at:

http://ec.europa.eu/environment/nature/biodiversity/economics/pdf/teeb_report.pdf

Therefore, a need for global solutions to overcome these world-wide problems was recognized more than 20 years ago. At the same times issues of global equity between developed and developing states were discussed. Not only that developing countries are mostly rich in biodiversity in many respects but economically poor, which poses an unacceptable burden on them to care for the conservation of their biodiversity, but at the same time a debate arose about the equitable sharing of benefits companies in industrialized countries make by using genetic material originating from developing countries for the production of pharmaceuticals, cosmetics etc. In 1992, the debates resulted finally in the adoption of the Convention on Biological Diversity at the so-called “Earth Summit” in Rio de Janeiro.

The Convention on Biological Diversity

Since its entry into force 192 Parties (as of October 2009⁴) joined the Convention. The CBD is structured as a framework convention: with the articles of the Convention Text outlining the objectives and goals of the convention, which then have to be specified through protocols or detailed decisions, taken by the Conference of the Parties, the governing body of the Convention. So far, one Protocol is in place: the Cartagena-Protokoll on Biosafety, which entered into force in 2003 as a supplementary agreement to the CBD⁵.

The three main objectives of the Convention are:

- 1.) the conservation of biological diversity,
- 2.) the sustainable use of its components as well as
- 3.) the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

The work of the Convention is structured in seven thematic programmes of work (namely: programmes of work on the biodiversity of inland waters, mountains, dry and sub-humid lands, islands, forests and the biodiversity of coastal and marine areas as well as on agrobiodiversity). In addition there are 17 so-called cross-cutting issues⁶ (ranging from “protected areas”, “biodiversity and climate change”, “invasive alien species”, and the “Global Taxonomy Initiative” to “finance”, “technology transfer”, “impact assessment”, “education and public awareness”, and “traditional knowledge related to biodiversity”, to name but a few). Thus, the CBD not only concerns nature conservation issues in its “traditional” sense but in an equal manner also issues of sustainable development and global equity. This important fact is also reflected in the Strategic Plan of the CBD which sets the so-called “2010-Target”: “...to achieve by 2010 a significant reduction of the current rate of biodiversity loss ... as a contribution to poverty alleviation and to the benefit of all life on Earth.”

The “positive” philosophy of the Convention is reflected in the principle that all decisions have to be taken by consensus, the fact that the regular delivery of national or thematic reports by Parties is the only control-mechanism to ensure the implementation of decisions as well as the strategy to work with positive incentives to encourage and support Parties in their efforts to fulfil the tasks of the Convention (e.g. by providing financial support through the Global Environment Facility, GEF).

Relationship between the CBD and other international agreements

Next to the Convention on Biological Diversity there are five other international conventions which focus on biodiversity issues: the Convention on the Conservation of Migratory Species,

⁴ A regularly updated list of Parties to the CBD is given at: <http://www.cbd.int/convention/parties/list/>

⁵ For further information on the Cartagena-Protocol visit: <http://www.cbd.int/biosafety/about.shtml>

⁶ For further information on the thematic and cross-cutting issues of the CBD see: <http://www.cbd.int/programmes/>

(popularly known as the Bonn Convention⁷), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES⁸), the International Treaty on Plant Genetic Resources for Food and Agriculture⁹, the Convention on Wetlands of international importance (popularly known as the Ramsar Convention¹⁰), and the World Heritage Convention (WHC¹¹), some of which are much longer in place than the CBD. Each of the biodiversity-related conventions acts at the international, regional and national level in order to reach shared goals of conservation and sustainable use but within their given field of expertise and mandate. While each convention stands on its own - with its own specific objectives and commitments as well as the respective approaches and tools to fulfil them - inter-linkages between the issues each addresses, and potential complementarities in their monitoring and implementation processes, provide a basis for cooperation and mutual support. Thus, a number of arrangements (e.g. memoranda of understanding, joint work plans) are in place to promote cooperation among the biodiversity-related conventions while reducing duplication of efforts.

There is also broad overlap between the issues dealt under the CBD and the other so-called „Rio-Conventions“, namely the United Nations Framework Convention on Climate Change (UNFCCC¹²) and the United Nations Convention to Combat Desertification (UNCCD¹³). Therefore, good collaboration amongst the Conventions from the global to the local level is crucial in order to reach the objectives of each of the conventions.

Implementing the CBD on the national level

There are several mutually supportive approaches to fulfil the commitments of the CBD on the national level. As called for in Art. 6 of the Convention, Parties shall set up National Biodiversity Strategies and Action Plans (NBSAPs) and integrate biodiversity aspects in all sectoral (e.g. agriculture, transport, tourism) and cross-sectoral policies, plans and programmes (e.g. development strategies), reflecting the goals and targets agreed under the CBD and its programmes of work. In 2007, the German government adopted the “Nationale Strategie zur biologischen Vielfalt”, which sets out more than 330 mostly quantifiable and measurable goals and targets as well as 430 specific measures and actions. Since the Strategy was developed in a very participatory way the implementation process now also involves a range of stakeholders¹⁴. Next to policy approaches, numerous tools and guidelines have been developed under the CBD to support the implementation of the objectives of the Convention (e.g. “Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species“, “the Ecosystem Approach of the CBD“, “ADDIS ABABA Principles and Guidelines for the Sustainable Use of Biodiversity“, “Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment“, “Guidelines on Biodiversity and Tourism Development“, to name but a few¹⁵). Due to its scope and comprehensive nature the implementation of the CBD is a challenge and chance for the whole of society in order to achieve future sustainable development; with science having an important role to play at all levels.

⁷ For further information visit: <http://www.cms.int/>

⁸ For further information visit: <http://www.cites.org/>

⁹ For further information visit: <http://www.planttreaty.org/>

¹⁰ For further information visit: <http://www.ramsar.org/>

¹¹ For further information visit: <http://whc.unesco.org/>

¹² For further information visit: <http://unfccc.int/>

¹³ For further information visit: <http://www.unccd.int/>

¹⁴ More information on the German National Strategy on Biological Diversity and its implementation process can be obtained from: http://www.bmu.de/naturschutz_biologische_vielfalt/nationale_strategie/doc/40332.php

¹⁵ An overview on existing guidelines developed under the CBD is given at: <http://www.cbd.int/guidelines/>

The role of science

The demand for scientific information to fulfil the commitments of the CBD is high. In many decisions research needs are expressed either directly or indirectly¹⁶. Generally speaking, there is a lack of scientific information on:

- the status and trends of biodiversity,
- the ecological and socio-economic impacts of changes in biodiversity as well as
- concepts for the conservation and sustainable use of biodiversity in its broadest sense.

These tasks can only be achieved through truly interdisciplinary and trans-disciplinary research approaches (FEIT & ZANDER, 2008¹⁷).

Within the CBD processes there are various ways for the involvement of “science”: On the international level either through the direct participation of scientists in different expert groups or convention bodies like the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) or indirectly through policy advice for the representatives of the national governments negotiating at the Conference of the Parties the decision making process can be informed and based on solid scientific data. Another important task is to identify further pressing research needs and to bring these to the attention of the negotiators in order to reflect this demand in upcoming decisions. On the national and local level science plays an important role for the implementation of the CBD *inter alia* by fulfilling the research needs identified by Parties, giving policy advice for decision makers and management support as well as by creating innovative approaches for the conservation and sustainable use of biodiversity. One example of supporting and facilitating this science-policy interface on the national level is the newly established project “Netzwerk und Forum zur Biodiversitätsforschung in Deutschland”¹⁸.

Final remarks

The year 2010 has been declared by the United Nations as the “International Year of Biodiversity (IYB)”. This may hopefully bring the importance of biological diversity to the attention of decision makers and the broader public, since “Biodiversity is life. Biodiversity is our life!”, as stated in the slogan of the IYB.

References

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¹⁶ An overview on all decisions of the CBD expressing directly or indirectly research needs is given at: <http://www.biodiv-chm.de/konvention/fo1412327>

¹⁷ Report available for download at: <http://www.bfn.de/fileadmin/MDB/documents/service/skript223.pdf>

¹⁸ Further information on the project can be obtained at: <http://www.biodiversity.de>